

George S. Rice Advocates Drop-Bottom Rock-Dust Barrier. See page 39.

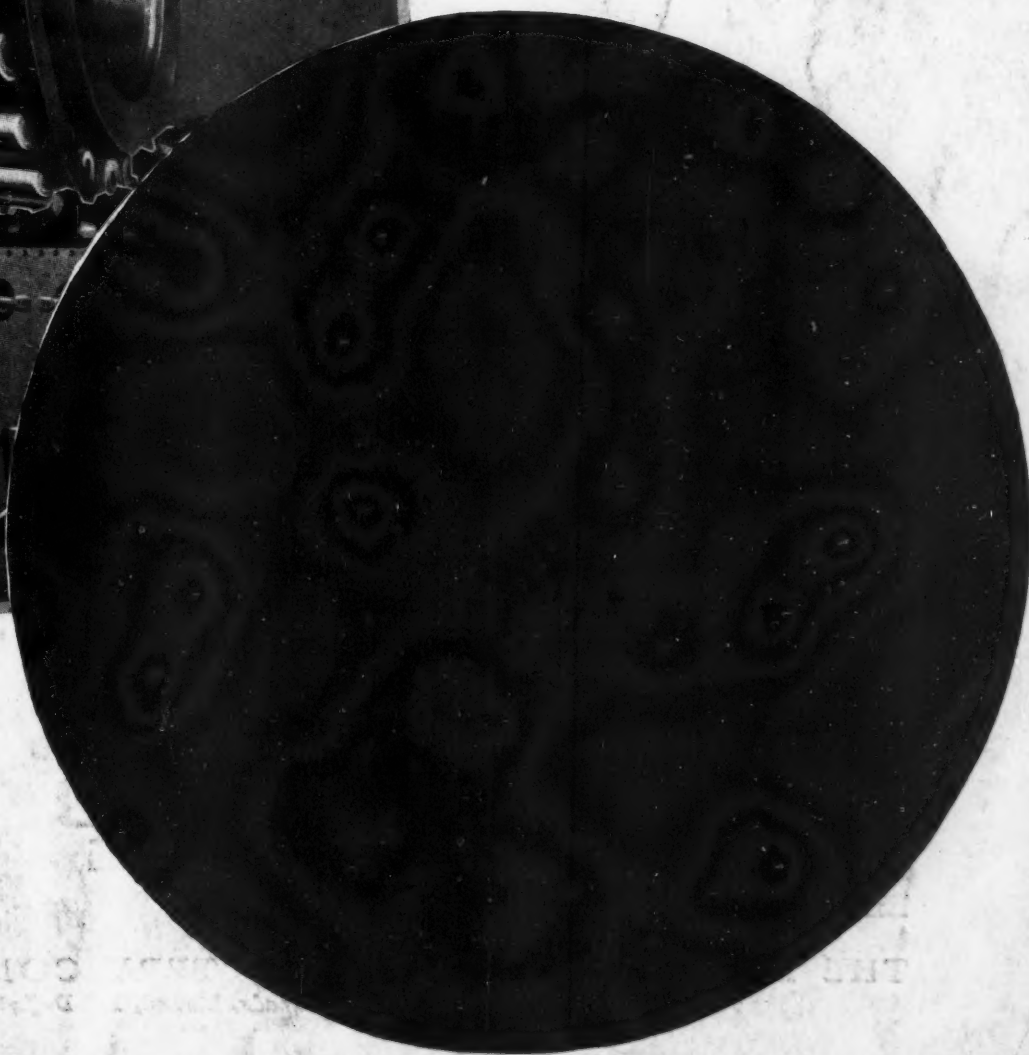
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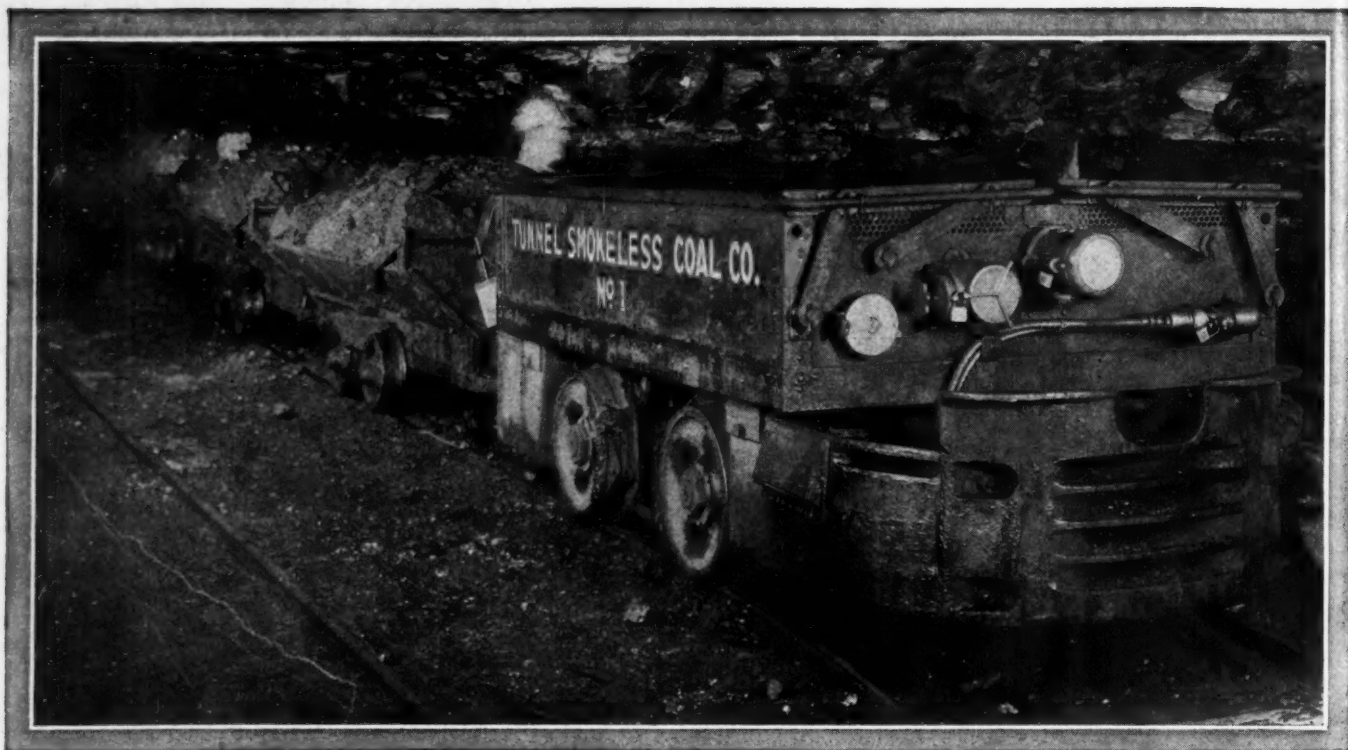
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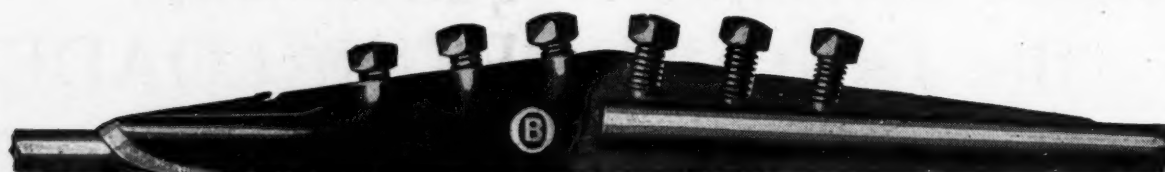
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Thin Coal—Big Output

THE MIDWEST, accustomed to huge mines, believes it has a monopoly on most of the superlatives of the English language as they can be applied to coal mines. Although this claim must be granted most of the time, A. F. Brosky, assistant editor of *Coal Age*, might well direct the especial attention of the Midwest to an article in next week's issue about a mine in Pennsylvania. Ten miles from Du Bois is the Kramer mine which is about to become the largest producing shaft mine in the country that works a seam less than 48 in. thick. A property that can hoist 4,000 tons a day from such a bed is worthy of respectful attention anywhere. There are some interesting features about the Kramer 8 x 32-ft. triple shaft, its twin 6-ton skips and the engineering ideas that have been applied in the mine.

SINCE "MORE LUMP!" is the constant cry of commercial mines, a good many men of the industry will look forward also to Dr. J. J. Rutledge's article on rock-dust tamped shots and air-cushioned blasting of coal. This Maryland chief inspector has given a great deal of thought to his subject. He builds his ideas around a series of experiments the results of which are written into the article.

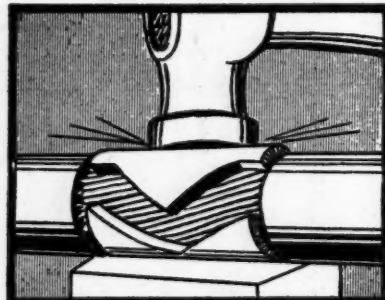
SOME ROCK-DUSTING THOUGHTS and machine-loading ideas that were brought out at the summer meeting of the Illinois Coal Mining Institute will be reported next week also. This Institute rides the Mississippi each summer.



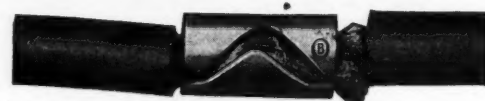
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Problems of the Coal-Mining Industry

R. Dawson Hall
Engineering Editor

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Correcting a Misunderstanding

IN OUR ISSUE of Oct. 23, 1924, we published an editorial which by general understanding referred to Mr. George H. Cushing, of Washington, D. C. The editorial in question was an attempt, without malice, to take a humorous view of a situation which had developed some intensity of feeling. Mr. Cushing construed our humor as an assault on his motives and even on his professional standards. The latter question was to him the paramount issue.

While we did disagree with Mr. Cushing on the matter then under discussion, there was no thought of imputing wrong motives to Mr. Cushing in the position he had taken, nor of questioning his professional standards.

In justice to Mr. Cushing we regret that the editorial was open to any misconstruction and withdraw any seeming imputation of motive it contained.

Still Unrepentant

A FEW WEEKS ago the Federal Trade Commission donned sackcloth and did penance in the open market, but its latest report on anthracite shows that it has not reformed an iota. Its statements being made at the eve of a contest for a new anthracite wage scale seem calculated to encourage the miners in their desire to compel the public to pay a higher wage than that to which the men are entitled. The facts have been published already; why repeat them now?

"In September," says the Commission, "the gross profits realized by wholesalers reporting to the Commission ranged as high as \$1.75 a ton and amounted to \$1 or more a ton on about 4 to 11 per cent of their reported weekly sales." It will be noted that the Commission does not say how many wholesalers got \$1.75 a ton. It is as if a foreigner commenting on our American conditions said: "In the mad race for wealth, in the United States, derelictions ranging even to murder are committed." A true statement but an unfair one. No group is to be judged by a single man.

"Failure of the industry to increase its mining capacity to meet increasing demand has resulted in the establishment of an unduly high price level," says the Commission. This is not a fact. Just at present the production is ahead of the demand. In 1922 there was an actual shortage of coal but, as the Commission says truly, the shortage in 1923 was only anticipated and not actual. At other times there has been a glut of anthracite. The condition for which the Commission prays wherein the mine capacity is equal to meeting periods of extraordinary demand has been with us to a large extent and will be for some time, unless there is a strike. The bituminous region has always been ready to meet such extraordinary demands and strange to say it has been universally condemned for having been thus equipped. Do we understand that the Commission would have the anthracite mines also overmanned and overdeveloped?

The Commission says more mines could be operated. That is true. A few mines could be opened but they are in regions where the coal pitches heavily, is badly crushed, is expensive to mine and where the mines will provide mostly small unsaleable coal. As the production is now ahead of demand, why open such mines? Furthermore, there is a glut of small sizes, which are sold at less than production cost at a loss of \$75,000,000 yearly. Provided the large sizes could be sold, would it pay to mine the mineral in order to get them if the small sizes in consequence became a drug on the market?

The lack of competition is suggested as a cause of peak prices. Strange to say, in the bituminous market when a shortage comes, the increase of price is greater than in the anthracite trade, the reason being that the old-line anthracite mines are reasonably sure of a fair profit and the operators do not feel justified in asking for as large a price as they can get as is the custom of many independent operators in that region and as is the general practice of the bituminous operators.

Don't Queer the Loading Scale

YEARS AGO when the machine-cutting scale was being framed some men who didn't want to buy machines for cutting coal advocated a wage scale that took away most of the profit of machines in Illinois. The state and even those men themselves have suffered long from this ill advised policy. When they bought machines, they found themselves confronted by an inequitable wage scale that robbed them of the profits of their enterprise.

The same point of view may present itself to others with regard to the loading-machine scale. Those who do not desire to modernize may try to prevent others from doing so and will lay their state or district open to competition from other states and with oil. If a man does not propose to use loading machines his sole right to action should be to prevent a day scale being proposed that will be lower than other day scales and that, of course, is not likely to be attempted.

Favorable machine scales are needed in union districts if they are to battle with competition. The hand-loading operators should not be selfish enough to prevent this, for if the district does not mechanize on a reasonable basis there will be profit for no one. Certainly the unmechanized will not be able to survive whether the scale for loading-machine men be high or low.

In the formulation of a fair scale the union should join with the operator. The laboring man should do all he can to advocate and assist the introduction of machinery that reduces toil. It should be recognized union effort—one of the axioms of unionism needing neither argument nor proof. Furthermore, the wage should be on a day basis so as to make it impossible for any operator to run his mine without due co-ordina-

tion of effort. The hand loader of the past has had to wait too long for cars. How long would he have had to wait had the operator been paying day wages? The introduction of the day-wage basis will be the end of the operator who persists in running his mine without regard for the efficiency of all parts of the operation. The loader should be as assiduously tended as the motor man or tippie hand and such attention will never be paid to his needs till he becomes a day man with his idleness a matter of apprehension to his employer.

We have said this for far more than ten years and the importance of this idea is just beginning to be appreciated. We advocated a combination wage—part day's pay and part a tonnage rate—but, now the argument is being acknowledged, it appears there will be no half way measures but that miners and operators will combine to establish a day wage that puts the whole burden of discontinuity on the operator and gives him all the profit that continuity affords. Perhaps that is not the ultimate solution but it seems at the present the one likely to rule, especially in conveyor-belt, hand-loading mines where the product of each man cannot be readily segregated.

We Also Believe in High Wages

JOHN L. LEWIS says in his book that the high wages of American workmen are a matter of pride to all Americans. Those men are dead or converted to a better mode of thought, he declares, who at one time advocated low wages. We can rejoice that Philadelphia pays more than twice the wages paid in London, three times the wages paid in Paris and nearly five times the wages paid in Rome, Madrid and Vienna. We hope these large wages will continue. We are sure they will. They represent a high productivity of labor and capital, greater than is attained in Europe.

Mr. Lewis may not have stated a fact when he said that high wages in themselves constitute Americanism, but it is true that they reflect an enterprise that is typically American. We hope the spirit of untrammelled achievement will be continued, that the store of natural wealth that aids such achievement will not be too rapidly depleted and that as the result of the energy of unfettered industry remaining relatively unchecked and the riches of the earth not being unduly exhausted, we may continue to see high wages in America for many years.

Herbert Hoover is reported to have said at the conference in the Hotel Ambassador, New York City: "It has always been my belief that the test of civilization is the scale of living of its whole people." In this all will agree but—

It does not follow that we rejoice when, by a combine and strikes that paralyze the country, any body of men obtain a wage that they could not get by supply and demand and make the public pay for the product more than is properly due. We do not rejoice in any such achievement. If it is Americanism, as Mr. Lewis volubly contends, it is not the kind of Americanism of which we are proud.

It does not follow that we rejoice when high wages make coal suffer in competition with the oil for domestic purposes.

It does not follow that we rejoice when an undue wage rate makes it possible for workmen to live on two days' work a week while others who have to buy their product must work six or run in debt.

It does not follow that we rejoice when we find one section of the coal field able to take the business entirely away from another by paying merely a normal wage while the other section pays a supernormal one.

It is not a contribution to Americanism when one industry, the anthracite, with an hourly wage that was already higher in 1914 than was paid in other industries, gets an increase in wage of 192 per cent in ten years while the manufacturing industries get an increase of 129 per cent, the railroads one of 141 per cent, the illuminating gas industry one of 111 per cent and the electric light and power one of 121 per cent, as is shown in the National Industrial Conference Board's report which we published last week.

Now, we hear, that these highly paid men want yet more pay. The miners are asking a 10 per cent increase, and the day laborers a wage advance that in some cases runs up to 21.75 per cent. In addition there are other provisions that are somewhat difficult to evaluate, such as weight allowances and payment for the placing of sheet-iron, props, timber, forepoling, abnormal shoveling and rock, free lights, jackhammers and air to operate them, so that the increase demanded *may* average 30 per cent or more which on the basis of the pre-war, 1914, rates is 88 per cent, bringing the increase if granted, which it will not be, up to 282 per cent above the pre-war figure, twice the increase obtained by railroad men, the group that next to the coal miners got the largest rate of increase.

This is not Americanism; it is the new feudalism—the outcome of a privileged era for that kind of unionized labor that believes that all is right, if you can "put it over."

The Man with Two Prices

HARDLY ANY REPUTATION is worse for an operator or a wholesaler than to be a man who sends out his salesmen to get as large a sum for his product as he can above a certain base price. But that is how coal is often sold. In fact the salesman is commended who "stings" an unsuspecting, uninformed buyer. At such times as the present the salesman usually is in the home office at least once every day trying to get a price to quote that entirely wipes out profit.

Where a company is not a one-price firm, every buyer is trying to beat down its price. Quality is not considered. Price is the sole thought. In fact the buyer does not believe that a product sold by haggling is a high-grade product. He usually *does* think that—and *just* that—of a commodity sold at a fixed price. Coal is enough different so that the buyer who finds a set price immediately concludes he has lighted on a superior article; whereas, if there is a variable price the purchaser assumes that the producer or wholesaler has an article that he has difficulty in selling. And the assumption is correct.

Two prices do not pay. It may be well to lower prices or raise them but not to vary them for any particular customer. The same price for all closes contracts quickly, saves selling costs and enhances the standing of the seller and the reputation of the goods. The word of power is, "You can't get *my* coal for any such gyp figure." The companies selling coal throughout this country should have the moral strength and business acumen to instruct salesmen to have no other selling policy, despite fierce competition.

Rock-Dust Barriers Have Important Part to Play In Protection of Soft Coal Mines

Bureau of Mines Engineer Declares for Drop-Bottom Type with Distant Tripping Vanes—Covers Keep Dust Dry and Ready—V-Troughs Have Many Disadvantages

By George S. Rice

Chief Mining Engineer, U. S. Bureau of Mines,
Washington, D. C.

THE RAPID ADOPTION of rock dusting as a means of forestalling mine explosions has recently brought consideration of dust barriers as a supplementary preventive agency strongly to the front. This article traces the history of the dust barrier, its various applications and will describe the type of barrier which is now considered to be the most effective. It is of the drop-bottom type, actuated by vanes located at a distance and is covered with sheet iron to keep the dust dry.

A shale-dust, flame-arresting barrier (*"arrêt-barage"*) was the first suggestion for the prevention of coal-dust explosion propagation, growing out of the investigations conducted at Liévin, France, by Taffanel. The principle involved was the concentration of masses of incombustible dust at intervals throughout the mine passages, designed to extinguish the flame by coking and interposition, thus arresting propagation, rather than generalized rock dusting as first proposed by Sir William Garforth and intended to prevent first ignition. Taffanel's initial recommendations were for the employment of ten shelves, each 20 in. wide, extending across the passageway, near the roof, on which the inert dust was to be piled.

When large-scale coal-dust explosion testing was begun by the Bureau of Mines under my direction, at the Experimental Mine in 1911, Taffanel barriers were used to lessen the force of explosions or to stop them at the end of a predetermined test zone.

It was found in hundreds of trials in which these barriers were used, that while in a great majority of cases they were successful, especially after more shelves

were used than had been originally prescribed, nevertheless they sometimes failed when the explosion wave had so little force as not to displace the dust, or when the explosion movement was extremely rapid but lacked violence. This latter condition may be encountered with a road dust of high ash content, with a small percentage of fire damp present.

The loaded Taffanel barrier presents a V-shape to the approaching pressure wave. This is not conducive to displacement of the loading. Furthermore, as the shelves are fixed, considerable violence is necessary to rupture and discharge the load. In the explosion disaster which occurred in the La Clarence Mine, Pas-de-Calais, France, in 1912, some of the original Taffanel barriers failed. This caused Mr. Taffanel to increase the number of shelves in each barrier to fifteen, and in subsequent practice throughout France, still more shelves have been added. They, however, were made narrower and balanced on a narrow support so that they would tip over and launch their contents under the action of a relatively weak air wave.

The La Clarence failure and certain other shortcomings demonstrated by tests conducted at the Experimental Mine at Bruceton, Pa., led me to develop in 1912 to 1915 what I termed "closed" barriers which would operate under the action of a smaller force than was necessary with the Taffanel design. The latter types of these closed barriers, tested at Bruceton, were almost universally successful. They are described in Technical Paper 84 (U. S. Bureau of Mines) published in 1915, and subsequently in Bulletin 167, in which are given the full results of the various tests.

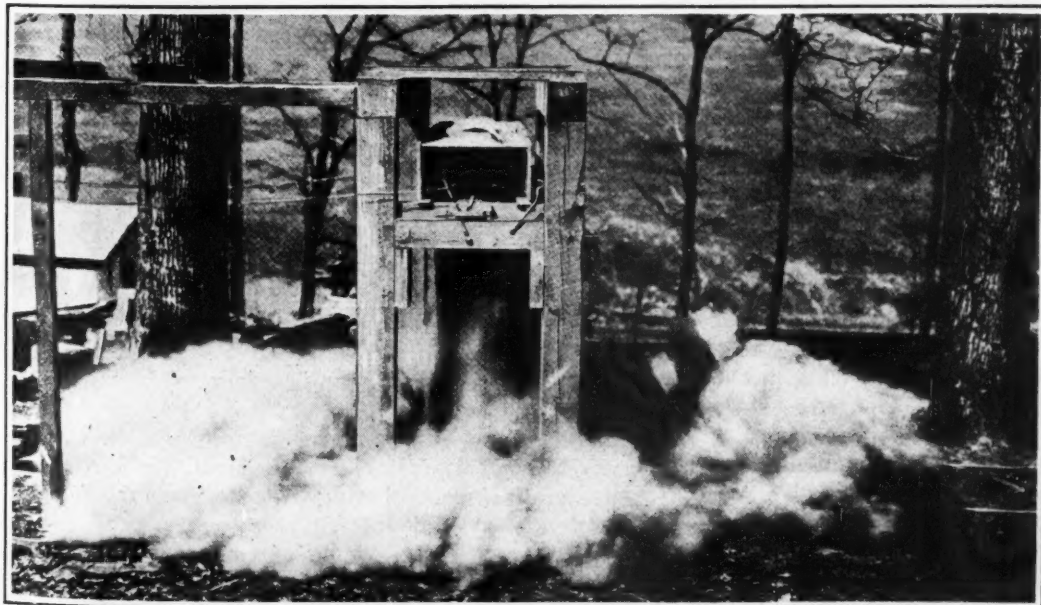


FIG. 1
Tripped in the
Open

This shows the effect of springing the mechanism of a trough barrier carried on a frame built up above ground. In actual operation it is essential that the rock dust contained in a barrier shall fall in such a way as to form a continuous curtain extending entirely across the heading and persisting for an appreciable length of time so as to effectively smother any explosive flame.

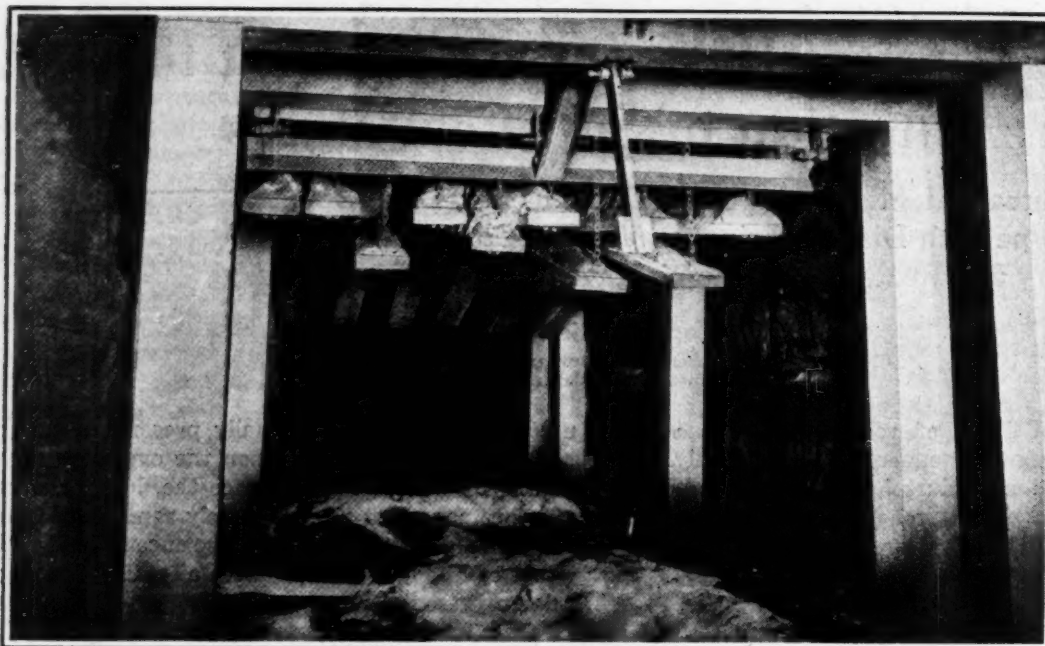


FIG. 2

After a Light Blast

Here is a type B concentrated barrier as it appeared after a light explosion. This kind of barrier is tripped by advance vanes and spills its dust in a whole series of sheets that persist until the explosive wave arrives. The flame thus is effectively blanketed and smothered. If the explosion is not violent no particular damage is done to the barrier.

The British have adopted generalized rock dusting on the theory that it is much better to prevent "ignition" than to try to stop "propagation." The Bureau of Mines' investigators conceded that this was a fact, but they believed it highly desirable to have secondary defenses. It is much easier to employ rock dusting successfully in mines using the longwall system, which prevails in Great Britain, than in the room-and-pillar method almost universal in this country.

In longwall workings old roads are cut off and there are no extensive open gobs, whereas in room-and-pillar work, generalized rock dusting is not so easily accomplished under many mining conditions. Moreover, in the longwall system the road ribs are rock, which entails some natural rock dusting. In room-and-pillar work, on the other hand, the sides of the passageways have ribs of coal, and sometimes the roof is of the same material. This increases the formation of coal dust through abrasion or spalling. Carrying rock dusting to the faces of rooms in old workings, or even into airways in which there are no tracks, is a difficult problem in such mines.

There is also the complication that where watering is employed in connection with undercutting and especially where its use is compulsory at all the faces, as is the case in Utah, the air in the rooms and return airways is extremely humid. This is not conducive to the maintenance of dry rock dust, although it has been found experimentally that any inert dust that is distributed helps in the wetting of the coal dust through contact. That is, it has been demonstrated by experiment that a mixed coal and rock dust becomes wetted rapidly, whereas coal dust alone resists wetting.

As long as rock dusting in this country was considered as being academic—since with few exceptions it was not practiced until about two years ago—the technique to meet the special conditions encountered in American mines was not developed. Recently, however, great advances in this direction have been made.

With the wide adoption of rock dusting during the past year—its use as an alternative for watering being made mandatory in Utah, while similar legal measures are being seriously discussed in other states—the question of barriers has become increasingly important.

Field investigations and direct inquiries from operators have developed the following important applications of barriers:

(1) To isolate old workings, especially those on the ventilation return, so as to prevent the propagation of an explosion originating in adjacent active workings or one starting in workings that have been abandoned either temporarily or permanently.

(2) Protection of airways and manways on which no tracks have been laid, especially those ventilated with return air which carries and deposits fine float dust from the active workings. This applies particularly where the roads are not sufficiently close to haulageways or there are no connecting cross-cuts which will permit rock dusting through the stoppings.

(3) For the protection of panels. For this purpose barriers are placed at entrances and exits so that if an explosion of gas or coal dust occurs within the panel, it may be stopped at the points of egress and not reach other parts of the mine, or vice versa.

(4) As an auxiliary to general dusting, barriers may be placed at intervals in main roadways which make coal dust rapidly through topping falling from trips, and being pulverized under the action of traffic. When so placed as to protect haulageway zones, barriers form an especially valuable secondary defense; for example, in case the dust in any zone increases in combustible content to the danger point before the next cleaning up and rerocking in that zone takes place.

(5) Temporary barriers may be placed in the vicinity of working faces where it is not deemed feasible to rock dust or where watering is employed to supplement dusting. Such barriers are moved ahead as the face advances.

The Bureau of Mines has recommended designs for closed barriers covering the first four of the above applications, although doubtless new plans may be devised that may prove cheaper to construct and still be effective. Practical application to the fifth case has not yet been satisfactorily worked out.

Generalized rock dusting depends upon the following principles: A coal dust explosion can propagate itself only by the constant raising of a dense cloud of inflammable dust ahead of the flame. Some have thought

that the combustible dust normally present in the air of a coal mine might propagate an explosion. This, however, is not the case. In order to propagate explosive inflammation a cloud of coal dust must be so dense as to be impenetrable to vision. The air waves ahead of the explosion, termed advance or "pioneering waves," constantly stir up the dust in front of the flame and permit its continuous explosive combustion.

An explosion may die away or be extinguished by any one of three means:

(1) No combustible dust may be present over a considerable distance of passageway; it has not been found feasible to maintain this dustless condition in mines.

(2) The dust may be so thoroughly wetted that it will stick together or to the walls and will not be raised by a blast. This requires from 20 to 30 per cent of water—30 per cent for the finest dust not including the water of composition, thus signifying a condition of mud.

(3) Explosive combustion may be prevented from proceeding, by the introduction of inert rock-dust particles which absorb heat and also act as a curtain between the particles of coal dust.

ADVANCE AIR WAVES MIX INERT DUST

In this third preventive measure, the well-known rock dusting method, the inert dust is applied in such quantities and in such position that the air waves, which always precede a coal dust explosion and in fact make it possible, will bring up and mix the inert dust in the air at the same time they throw the coal dust into suspension.

The underlying principle upon which barriers operate is that they launch suddenly so much inert dust into the advance air waves that instead of the explosive flame being extinguished gradually over a long distance, it is almost immediately quenched by the great excess of inert dust concentrated at that point.

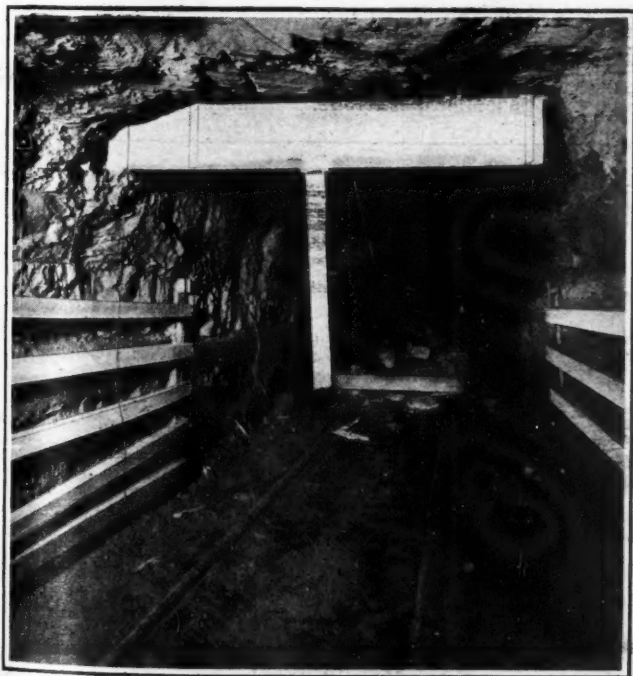


Fig. 3—Effect of a Violent Explosion

Heavy explosion waves may completely demolish a dust barrier. This is of decidedly secondary importance, however, as the primary consideration is that the propagation of the dust explosion shall be stopped. This is the entire object of any barrier.

When the rock-dusting method began to be used several years ago, some mining engineers and operators who had read of barriers or seen them successfully used in extinguishing test explosions in the Experimental Mine, accepted the general idea but apparently did not fully understand some of the vital factors of design. They, accordingly, either modified the Bureau's designs or made entirely new ones of their own.

One of the types favored because of its cheapness was the V-trough barrier which had been extensively used at Bruceton, although not considered by Bureau investigators as being the best design. Certain alterations were introduced. Thus the V-troughs were made much smaller and the spaces between them were narrowed. This arrangement is reported to have been successful in stopping a number of explosions in the Middle West. It has not been followed by the Bureau in the designs which recently have been extensively introduced in the Rocky Mountain field.

Undoubtedly, many mining engineers and operators will devote some attention to designing barriers. It is for this reason that I here present what I believe should be the principles governing such designs:

(1) Preference for the so-called "closed" barrier, over the Taffanel shelves, rests upon the fact that the former prevents the inert dust loading from becoming wet in the presence of humid air which would nullify its usefulness. It also obviates contamination by floating coal dust. To accomplish this end the inert dust should be completely inclosed and if the barrier is not placed tightly against the roof at a point where it is dry, it should have a cover of galvanized iron or its equivalent. Oilcloth has been used at the Experimental Mine and has served successfully over a long period. In the returns of certain other mines it has shown a tendency to rot.

(2) A barrier should be so sensitive that an air wave exerting a pressure of only 2 or 3 lb. per square inch (as measured at right angles to the direction of travel) will cause it to operate. A V-trough barrier as ordinarily installed does not meet this condition. The small V-shaped containers do not present enough surface and the sides of the individual troughs are inclined and consequently do not stand at right angles to the advance of the air wave. Furthermore, the bottom edge is held by the V-notch which simultaneously acts as a support and a hinge. Supplementary vanes, such as a vertical board on top of each trough, would increase their sensitiveness to shock waves and aid in their capsizing.

(3) In some cases an explosion may start strongly, as by a blown-out shot or an ignition of fire damp. Strong air waves are thus initiated, but the coal dust inflammation which may follow, at first may proceed slowly so that the combustion zone lags far behind the pioneering air waves that move at the rate of sound (1,100 ft. per second). To provide for such a case the barrier should not dump *en masse* but should be so arranged that much of the dust will sift down gradually or cascade over bars or grids so as to remain in suspension until the combustion wave arrives. This condition is not met by the original Taffanel barrier nor by the simple V-trough, which discharges its load *en masse*.

(4) To provide for extremely rapid flame propagation, as in a main haulageway where the explosion may travel at the rate of 3,000 or 4,000 ft. per second, it is important that tripping vanes should be located about

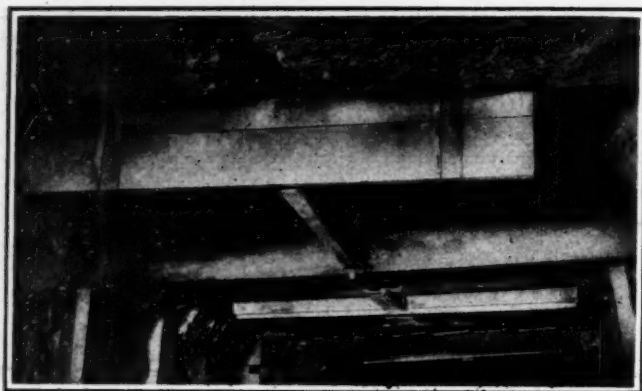


Fig. 4—"They Shall Not Pass"

Barriers, in reality, are deadfalls deliberately set in the runways of mine explosions. If properly constructed and maintained no explosion, regardless of its direction or speed of travel, can get by. This illustration shows a trough barrier with its operating vanes ready to throttle and kill any mine disaster of this kind that may traverse this heading.

100 ft. in advance of the barrier. This distance the Bureau's experiments have shown to be sufficient to start the mechanism in motion for dumping the barrier in ample time. The barrier, however, should not be entirely dependent on such vanes; there should always be supplementary means for tripping it, in case any accident should befall the advance vane or the wires connecting it with the barrier.

Such vanes should be scientifically proportioned so that they will not trip under the action of any small shock wave such as that set up by the slamming of a ventilating door, by a high pressure ventilating current or by disturbances caused by distant blasts of explosives. A vane should be operated unfailingly, however, by the shock wave of even the lightest, slowest-moving explosion, such as may occur when the combustible content of the air is near the lowest limit permitting flame propagation.

(5) The arrangement of the barrier should provide for a minimum delay in launching the load of dust. This can be accomplished most effectively by providing for discharge of the dust at the bottom. This condition is not met by either the Taffanel or the V-trough barriers. The latter must swing through an arc of about 90 deg. before the rock dust load even begins to discharge.

(6) Taffanel tests in France, as well as those conducted by the Bureau of Mines in this country, have indicated that the loading of the barrier, or set of individual units which make up a barrier, should be about 100 lb. per square foot of entry cross-section. Such a loading should be somewhat increased if the cross-sectional area is less than 50 sq.ft. and perhaps somewhat decreased if it is greater than 60 sq.ft. This loading is deemed necessary except where there is supplemental rock dusting in the immediate vicinity, in which case the amount of dust may be somewhat lessened.

(7) Dust for loading a closed barrier may be any kind of dry, inert material, 50 per cent of which will pass through a 200-mesh screen. Inasmuch as this dust will not normally enter into the mine air and be breathed by the workmen, it need not be non-siliceous as is the case in generalized rock dusting. It is desirable, however, to use for closed barriers a dust that has no hygroscopic qualities. That is, one which will not tend to absorb moisture.

(8) The material of which any barrier container is

made usually will be wood. If, however, the barrier is located in an extremely wet or humid place, it may be desirable to make the sides and cover of galvanized iron or some similar material.

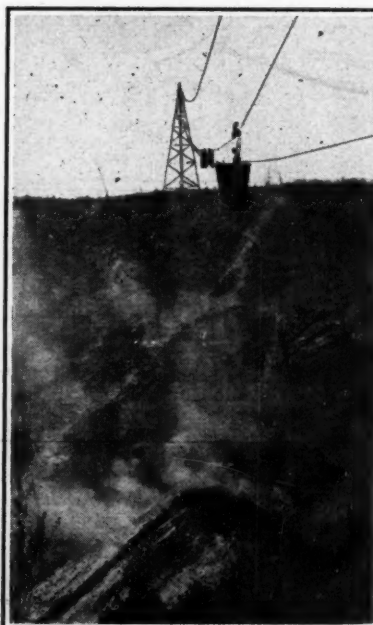
(9) Any closed barrier, if used in a haulageway or manway, should be so arranged that if it should be accidentally tripped men underneath will not be struck by the moving parts. In some cases this may necessitate recessing the barrier into the roof, although usually a place can be selected where the natural roof is sufficiently high.

(10) In locating a barrier, if there is any choice of position, it is advisable to avoid places where the roof is unusually high or where the width is excessive, but to locate it at some point on the roadway where the cross-sectional area is not over 60 to 70 sq.ft. Ordinarily the barrier units should not be more than 8 ft. wide and it is desirable to have the bottom of the barrier not over 7 to 8 ft. above the floor. An explosion passing through a place of this kind will have such velocity that the pioneering air waves will thoroughly mix the inert dust loading in the air, whereas if located in an extremely high place the mixing may not be so thorough and the explosion may pass over or under the barrier. In explosions of a feeble character, as demonstrated by the tests in the Experimental Mine, the flame usually does not completely fill the passage, yet the heat and gases would prove fatal.

BARRIERS MEET SPECIFICATIONS

These suggested specifications for closed barriers are met by the Bureau of Mines' bottom-dumping trough barriers (not V-trough) and by the concentrated barriers detailed in the plans of Technical Paper 84 and Bulletin 167. Both these designs employ advance vanes and also supplemental tripping arrangements at the barriers themselves.

No doubt other designs will be evolved from time to time. Eventually it may be desirable, as knowledge of this subject grows through the application of barriers in commercial mines, that the Bureau of Mines establish permissibility specifications, like those for explosives and electrical machinery intended for use in dusty or gaseous operations.



Boy Gets Thrill

Boys living at Blue Diamond, Ky., had no chance to ride airplanes so that they took their air thrills by riding short distances on the traction rope of an aerial tramway used by the Blue Diamond Coal Co. This sport went on unknown to the coal company until one day recently when a 10-year-old boy grabbed the rope ahead of the bucket, failed to let go soon enough and was carried out across the 200-ft. deep valley, over a burning refuse dump and into the top of a 90-ft. dead-end tower shown in the background of the accompanying picture. There the lad let go just in time to avoid getting mangled and snatched a hold on the tower structure. He climbed down to home and mother. Tram riding has ceased.

Mining Method Cuts Cost in Steep Anthracite

Each Chain Pillar in Nearly Vertical Kidney Bed Serves as Battery for Breast Above—Maintenance of Gangways Is Low—Coal Boxes Support Hanging Wall at Wanamie

By Dever C. Ashmead

Anthracite Mining Engineer, U. S. Bureau of Mines,
Wilkes-Barre, Pa.

GENERALLY SPEAKING, steep-pitch mining in the Pennsylvania anthracite region is associated with the Southern, Eastern Middle and Western Middle fields. In certain portions of the Northern field, however, may be found comparatively small areas which require this type of mining. The methods here employed, though following the same general lines as those of other fields, differ from them more or less in detail. The engineer familiar with the flat mining of the Northern field when confronted with steep-pitch operations is liable to introduce variations to the methods usually followed that may or may not be of value to his brother engineer in other fields. This paper discusses conditions and the methods adopted at the Wanamie Colliery of the Lehigh & Wilkes-Barre Coal Co. at Wanamie, Pa., where gangway maintenance is low and costly batteries at main breast mouths are unnecessary. The section of the workings particularly referred to is that which lies in the No. 45 tunnel area of the Kidney bed. Fig. 1 is a map of this locality.

The coal here ranges in thickness from 5 to 7 ft. and the pitch from about 17 to 90 deg., as is shown in the accompanying cross section, Fig. 2. The particular part of the workings that will be described is that where the Kidney bed is standing vertical.

STRUCTURE OF ADJACENT STRATA

The top rock or hanging wall consists of a mixture of coal, bone and slate, which ranges in thickness from 3 to 5 ft. Immediately above this, the main roof is a sandy slate. The foot wall or floor of the bed is soft sandstone. At the particular point shown, the gangway is approximately 300 ft. below the surface. The coal is of a shelly nature, but does not run as it does in some places in the lower coal fields. A sample, taken near chute No. 7 in the monkey heading, and analyzed at

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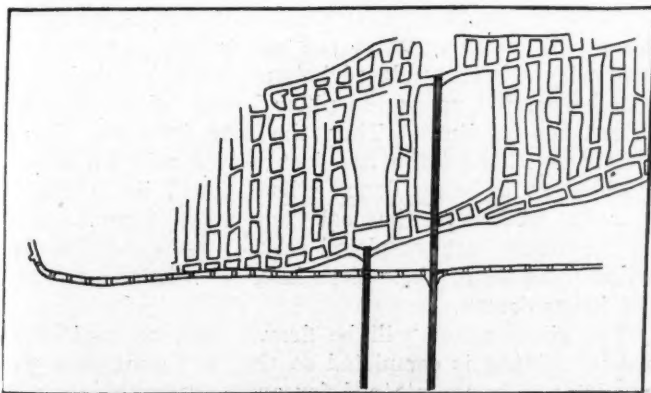


Fig. 1—Section Through No. 45 Tunnel

This is in the Kidney bed. Here the coal measure stands vertical and a method of mining differing somewhat from that followed in steeply pitching beds elsewhere in the anthracite fields has been adopted.

the Pittsburgh Station of the Bureau of Mines, showed the following results:

	Coal, Air Dried	Coal, As Received
Moisture.....	0.9	12.0
Volatile matter.....	5.4	4.8
Fixed carbon	82.1	72.9
Ash	11.6	10.3
	100.0	100.0

Gangways are driven in the coal 12 ft. wide and 6 ft. high clear of the rail. Chutes are turned off the gangway every 50 ft. and are driven 12 ft. wide. Thirty

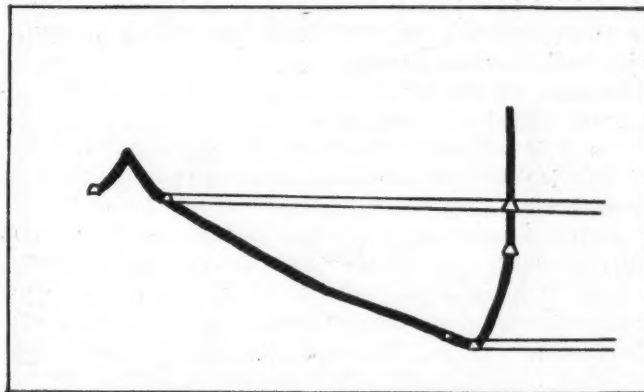


Fig. 2—Section of the Kidney Bed

At this point the gangway is approximately 300 ft. below the surface and the bed stands practically vertical. All passages are driven within the coal, leaving the rock of both foot- and hanging-walls intact.

feet in the clear above the gangway a monkey heading is driven, that is, leaving a pillar 30 ft. thick between the passages. Breasts 24 ft. wide are turned off of this monkey heading on 50-ft. centers, leaving pillars between 26 ft. thick. The center lines of the pillars are directly over the centers of the chutes, as shown in Fig. 3, thus bringing the breasts directly over the centers of the chain pillars between the gangway and the monkey heading. This arrangement obviates the building of a battery at the mouth of each breast, for the coal in the box that is constructed in this opening rests directly on the chain pillar.

After the gangway has been driven, a concrete stopping is built in each crosscut. This is poured from the top, the old wooden stopping being used as the bottom of the form. Two holes are left in the stopping so that material may be taken through for its construction. As soon as the stopping has been poured, however, these holes are sealed. When it is desired to reopen them all that is necessary is to knock out the wooden frame. A cross section of a crosscut is shown in Fig. 4.

When the time comes to commence driving a breast the two holes in the concrete are opened. One of these is about 8 ft. wide and serves as a coal chute. The other hole serves as a manway, being just wide enough for a person to pass through. A trap door is made

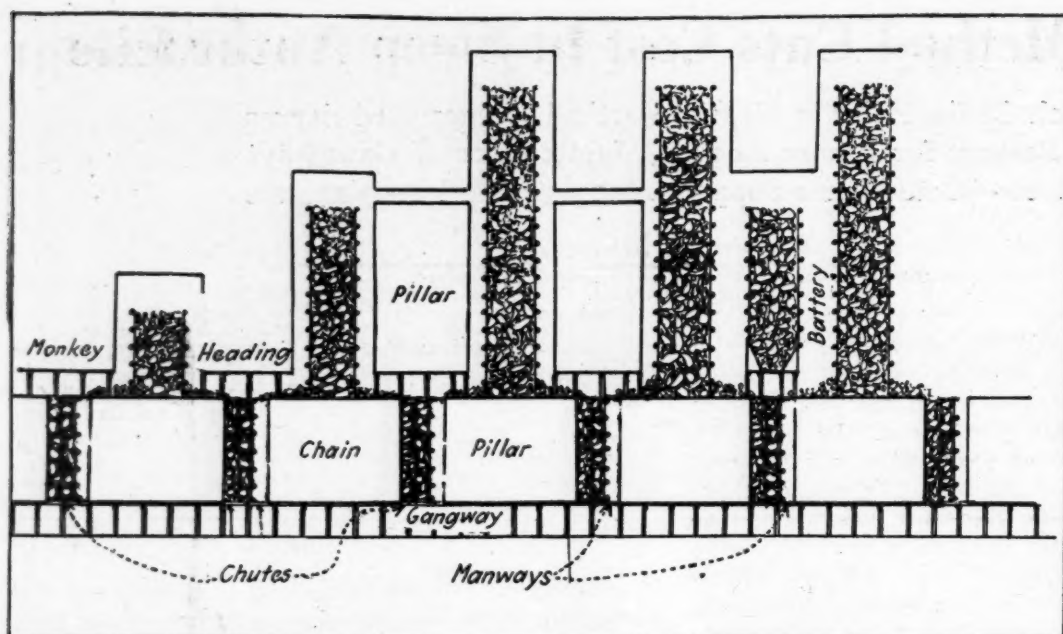


FIG. 3

Details of Mining

Above the gangway a monkey heading is driven, the two passages being connected by chutes. Above each pillar between the monkey and main heading a breast is driven upward, a coal box being carried up its center. This is kept full and gives footing for the miners as the breast advances. Surplus coal is shoveled over to the chutes upon either side from which it is drawn off into mine cars in the main heading.

to fit over this latter opening so that the air will not be short-circuited by it. When the chutes are filled with coal they act as stoppings.

Lagging on top of the timbers in the main gangway is made sufficiently strong so that it acts as a battery. When it is desired to load cars from the chutes, some of this lagging is removed, allowing the coal to pass from the chute into the mine car.

As previously stated, the center lines of the breasts coincide with the center lines of the chain pillars between the gangway and the monkey heading. This means that directly opposite the end of the breast is the face of a pillar. Consequently, each pillar becomes

the battery for its breast. In starting the breast a shot is fired in the roof, immediately over the monkey heading, so that ventilation will be maintained. When the next round of holes has been drilled, the coal is shoveled into the nearest chute, after which the coal box is started and by the removal of coal, space is provided for the circulation of air through the monkey heading. As driving of the breast proceeds, the box is built upward so that the men have the coal in it upon which they can stand while working at the face. The box is kept constantly near the face and always full. Surplus coal mined while the breast is being driven is run down the manway and drawn off into the coal chutes from which, in turn, it is periodically withdrawn to mine cars. No coal is drawn from the bottom of the battery until the breast is finished.

In the lift nearest the surface no reserve pillars are left. In the next lift below, however, two adjoining breasts out of every ten are left in place as a reserve pillar, thus forestalling the development of a squeeze and preventing any movement of the ground from traveling any appreciable distance.

Hand machines are utilized for drilling coal and jack-hammer drills are employed in rock. Monobel is the explosive used, with cap and fuse to detonate it.

After the breasts have been finished in a section of the heading, second mining will be commenced. Two triangular pillars of coal are to be left immediately above the chute opposite the last pillar, one on each side with a battery placed between them. Next a box will be carried up as the pillar breast advances, until it reaches its limit. Then the coal from the breast on the outside of the one just driven will be drawn. While this is being done, a breast will be driven in the next pillar and the coal then drawn from the box in the breast just completed in the previous pillar and so on until all of the pillars have been mined out and the boxes drawn.

The chain pillar will be drawn back as rapidly as second mining is completed so that the gangways will not have to be maintained for any unreasonable length of time. The main saving effected by this method of mining results from the fact that it is not necessary to build expensive batteries at the mouths of the main breasts.

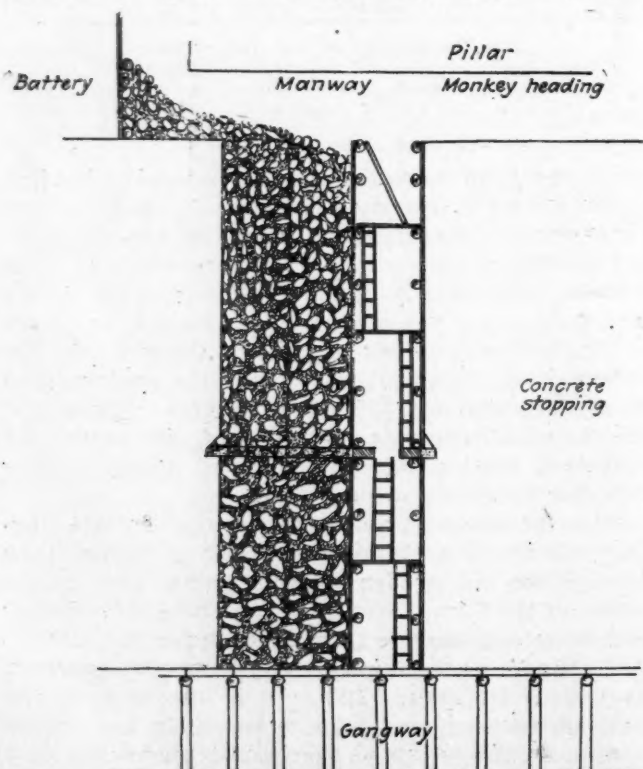


Fig. 4—Details of the Coal Chute

A heavy concrete stopping is built across this vertical passageway. This contains two openings. The larger of these permits the passage of coal but this material serves to plug this opening so far as the circulation of air is concerned. The smaller hole is used as a manway, the air being controlled by means of a trap-door cover.

Synchronous Apparatus Can Improve Power Factor

Whether a Coal Company Generates or Buys Energy Much Loss and Expense in Alternating-Current Circuits May Be Avoided by the Use of Proper Corrective Devices

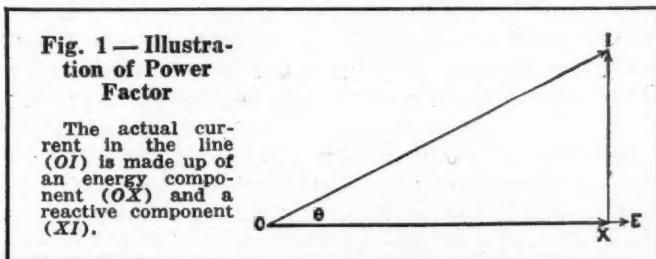
By R. C. Muir

Assistant Engineer, Industrial Dept., General Electric Co., Schenectady, N. Y.

THE IMPORTANCE of maintaining good power factor conditions in the alternating-current power circuits at coal mines is as great as in any other industry. Whether a coal company generates its own energy or purchases it, the operating power factor of its lines affects power costs thus reaching into the expense of producing coal. Investment in power-factor improvement devices might make much heavier expenditures for additional equipment unnecessary, not to speak of other savings to be mentioned in this article.

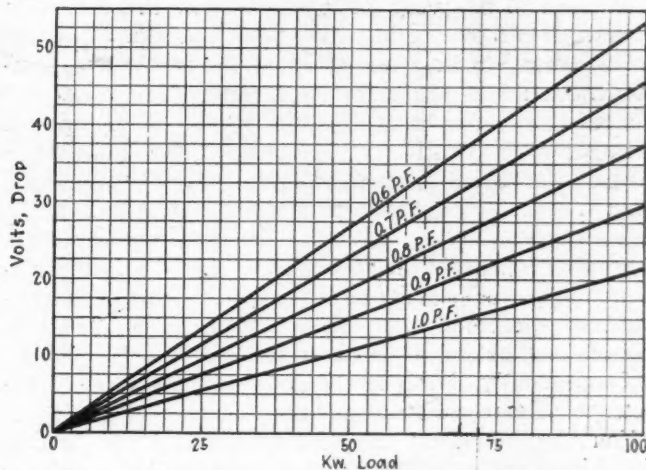
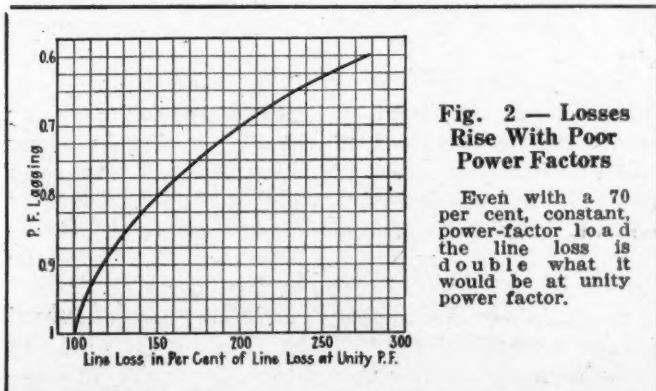
Before defining power factor, it might be stated that, in most alternating-current systems, the current lags behind the voltage, chiefly on account of the magnetizing current of transformers, induction motors, control equipment and other devices. This magnetizing current is a reactive current lagging 90 deg. behind the voltage, whereas the active current is in phase with the voltage. The total or actual current in the line is the resultant geometric sum of the two, the reactive current and the active current being its two components.

Referring to Fig. 1, which is a simple vector diagram



by which most power factor problems can be solved, OI is the actual current; it lags behind the voltage OE by the angle ϕ . The active component in phase with the voltage is OX and the reactive component 90 deg. out of phase is XI. The power factor of a circuit is the ratio of the active component of the current to the actual current, or the ratio $OX \div OI$ which is the cosine of angle ϕ .

The common definition of power factor is the ratio of the true power to the apparent power. The apparent in a three phase circuit is $\sqrt{3EI}$, which is kilovolt-amperes (kva.); the actual power is $\sqrt{3EI} \cos \phi$



As the load increases, the line loss increases regardless of the power factor, but note how rapidly the line loss becomes greater when the power factor is poor.

ϕ , which is kva. times power factor and gives kilowatts (kw.). It is apparent that kilovolt-amperes and kilowatts are one and the same thing at unity power factor and that, for power factors other than unity, the current for a given kilowatt load increases inversely with the power factor.

Generators, transformers and power lines are limited by their current carrying capacity. Consequently, leaving aside certain other undesirable effects of low power factor on generator design and voltage regulation, the true power load which a given generator, transformer or line may carry is proportional to the power factor. In other words, the kilowatt load that can be carried at 80 per cent power factor is only 80 per cent of the kilowatt load that could be carried at unity power factor.

The investment in generators, transformers and lines, therefore, increases as the power factor decreases and, when this involves additional equipment, particularly underground cables, the increased investment mounts rapidly.

The I^2R , or heat loss is proportional to the square of the current and, consequently, increases inversely as the square of the power factor. Fig. 2 shows the relation between power factor and line loss for any circuit when carrying a constant kilowatt load. Fig. 3 shows the actual line loss for a 1,000-ft., three-phase, 60-cycle, 440-volt line of No. 0 wire at various loads and power factors. These curves terminate at the safe current-carrying capacity of this particular line and the various curves show clearly the increased line loss at the lower power factors as well as the decrease in safe load-carrying capacity with decrease in power factor.

The voltage drop increases rapidly with decreasing power factor, depending on the resistance and reactance of the line. Fig. 4 shows the line drop in a three-phase, 60-cycle, 440-volt circuit, 1,000 ft. long with 9-in. spac-

ing consisting of No. 0 wire. It will be noted that the drop increases more rapidly than the power factor decreases, which, in turn, is due to the reactance of the circuit. This circuit might be considered as typical. The actual volts drop in the circuit carrying various loads at different power factors is shown in Fig. 5. These curves are intended to give a picture of the effect of the reduction of power factor and are not intended to be used in actual calculations.

Usually a 10 per cent variation in voltage either way from normal has very little effect upon the operation of induction motors other than upon the slip. Voltages below normal reduce the speed of the motor and, consequently, affect production adversely. The torque of induction motors varies with the square of the applied voltage; consequently, if the voltage drops more than 10 per cent below normal, it is not only the abnormal reduction in speed due to increased slip that becomes serious, but also the likelihood of stalling the motors and other apparent disadvantages, such as lower efficiency and over-heating of the motor. Other disadvantages of abnormally low voltage, such as poor lighting, are too well-known to be discussed here.

Consequently, low power-factor circuits require expensive voltage control equipment or the voltage regulation is inferior, and operating and production difficulties arise. It is evident, from this, that power factors other than unity involve additional investment in generators, transformers, lines and regulating devices.

The supply of reactive current, incident in power factors lower than unity, should be considered a service rendered by the power house, and a charge for it is entirely justified when based upon the expense involved. This is being done by a large number of power companies and, undoubtedly, a more or less uniform method of determining this charge will be adopted eventually. This is sometimes spoken of as a penalty, but it is not really a penalty but an additional charge for additional service for supplying the reactive load.

It is apparent, from the disadvantages of low power factor, that there are corresponding advantages of good power factor and, therefore, it is to the advantage of the power user, whether he generates his own power or purchases it, to obtain the highest possible power factor consistent with economy. It is a problem of balancing the benefits obtained, such as lower power costs, lower investments within the plant and improved operating conditions, against the increased cost of equipment necessary to improve the power factor.

The advantages obtained naturally depend largely

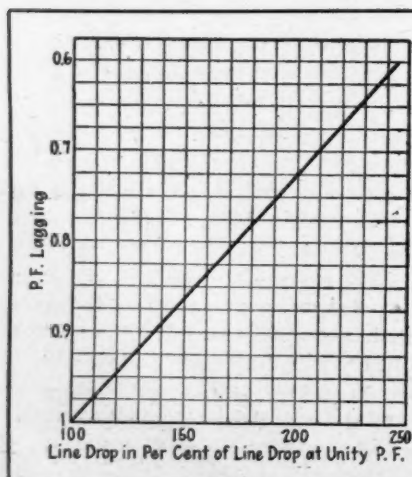


Fig. 4—How Line Drop Increases

This represents the effect of low power factors on the same line as illustrated in Fig. 3. The kilowatt load is constant over a 1,000-ft., three-phase, 60-cycle circuit of No. 0 wire. The power is 440 volts at the motor

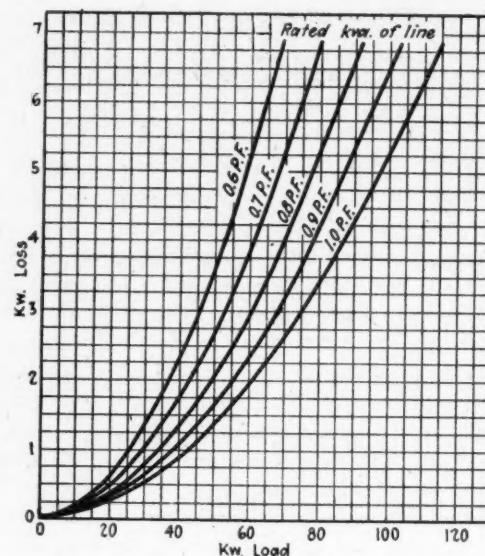


Fig. 5—Loss of Voltage on 440-Volt Line

upon the particular cases. Almost unbelievable results are obtained where conditions of the existing equipment and distribution system have become critical because limitations of current-carrying capacity have been reached and conditions of operation have become so bad due to low voltage that something had to be done immediately.

In one case the installation of a 500-kva., synchronous condenser outfit and a 300-kva., synchronous condenser has permitted the addition of a 500-hp. load without any other changes in equipment. If this had not been done a new turbine generator, an additional line, and two banks of transformers would have been required, costing several times as much as the synchronous condensers.

In another case, the necessity for the installation of a turbine generator, additional lines and transformers was obviated by the use of a low leading power-factor, synchronous motor-generator set connected to the load side of the transformers at the point where the additional load was required.

In another instance, the installation of a 300-kva. unit of static condensers saved the investment of a new engine-driven generator unit which would have cost four times as much as the static condensers.

Each case carried additional advantages in decreasing the losses or increasing the economy of the plant. Naturally, where conditions have not become critical, the immediate showing will not be as great as in the cases mentioned, but the ultimate beneficial results may be just as attractive.

Improving the power factor might mean the avoidance of installing additional generators, transformers or lines. It might mean a considerable saving in power bills due to better rates and, in addition, a saving in losses, in transformers, lines and motors sufficient to warrant investment of power factor improvement devices. It might mean an improvement of voltage conditions which would increase production as a result of maintaining rated speeds of induction motors. Good voltage regulation might further mean a large saving in maintenance, as low voltage usually results in over-heating of motors, transformers and cables.

Mr. Lewis Seeks a Wider Audience

JOHN L. LEWIS, by virtue of his mastery of the United Mine Workers, is in the position where anything he may care to say respecting the coal problem will command attention—if not respect. Even the repetition of trite truths must be listened to with a humble show of eager interest when they roll from his lips. Such are the rewards of power. Therefore, when he claims consideration as a full-fledged author (*The Miners' Fight for American Standards*; Bell Publishing Co., Indianapolis, Ind., 189 pp., \$2), he is assured in advance of a dutiful circle of readers whose size many a veteran writer might well envy.

Mr. Lewis presents twin theses, wrapped in a verbal orgy of flag-waving that threatens the supremacy of Mr. Cohan as the unexampled exponent of 110 per cent Americanism. His first thesis is that all the improvements which have taken place in mining methods and living standards in mining communities are the fruits of the activities of organized labor. The necessary corollary, developed with an effective restraint of heat, is that the non-union operations are the source of all the un-American tendencies which would drag industry back to serfdom. The second major thesis is that the operators as a whole—and here Mr. Lewis' pen is a spear that knows no brother, smiting alike union and non-union producers—have failed to take any constructive steps to put bituminous mining on a more solid foundation and that, therefore, it has devolved upon the miners' organization to save "capitalism" from its own follies.

These themes are developed through a dozen chapters in which the author discourses on "The American Spirit and Coal," fundamental evils of the industry, wages, mismanagement, freight rates, labor relations, overhead, the check-off and living conditions, to the end that the reader may agree with the final conclusion that the salvation and the freedom of the industry can come only through complete recognition of the union. The paradox escapes Mr. Lewis entirely. Admitting at the outset that "the coal industry was not conceived, planned and blue-printed by scientific supermen or young critics just out of Harvard," Mr. Lewis sees in its somewhat haphazard growth and the many mistakes of inexperience, no support for the theory that government control would better conditions.

Mr. Lewis frankly confesses that the union "has no patent cure-all in its pantry" for the ills of the industry, but he is confident that the basic evil of overdevelopment is now on the way to elimination. Improved railroad service has made it impossible to boost prices on a car shortage scare; the long-term agreement in the union fields forestalls strikes "and leaves no hope to the non-union operator of profiteering at the expense of the union fields during suspensions." Mr. Lewis, in effect, charges the non-union districts with a conspiracy to bankrupt the union mines, but gleefully asserts that the non-union producers "are gradually bankrupting themselves in the vain effort to overcome geography by selling enslaved man-power in competition with coal. At the same time the struggle in the union fields is slowly weeding out uneconomic mines, obsolete equip-

ment and incompetent management." An untrammelled functioning of the law of supply and demand "is working a cure."

To yield now to demands for a revision in wages, he argues, "would serve only to prolong the maladies of the industry, while sacrificing the rights of the miners." Mr. Lewis still clings resolutely to the claim that any reduction in union rates would be met by further reductions in non-union wages, although in the same chapter he states that the non-union fields have already "cut wages and coal prices to the bone." The undisputed fact that the present wage policy of the union is encouraging non-union production is passed over in silence.

Hit-and-miss methods of operation, according to Mr. Lewis, have been the rule in mine management. "The inefficiency and incompetence of superintendents and mine bosses as regards the correlation of mine operation is a plague on the industry," he declares, and calls upon the United States Coal Commission—heretofore roundly damned by the union—to prove his statements. Operators have neglected the opportunities to mechanize their mines, they have been backward in improvements and now that the lean days are upon them, says Mr. Lewis, they cannot cut wages "to pay the costs of your business stupidity."

SIDESTEPS LOCAL STRIKES

The author repeats his boast that the international union has never violated a contract. In the next breath, however, he acknowledges that local strikes are many and sees no way to end them under existing conditions. "These local struggles," he pleads in defense, "really originated twenty million years ago in the geological causes which have determined the working problem of various coal fields, coal seams and individual mines, different from the similar problem presented anywhere else." Apparently conscious that this defense may not be convincing, he shifts the responsibility to mine managements and in so doing tries to lift local strikes out of the category of contract violations.

Mr. Lewis enters a vigorous denial to the charge that the union has opposed mechanization. He insists, however, that "mine labor demands and will enforce the right to such consultation in the period of mechanization as will prevent the sacrifice of its standards in the process." He suggests, with enough truth in some cases to give sting to his words, that one thing which is burdening coal production is an unwise multiplication of sales efforts. Many consolidations, he declares, have been rendered ineffective because of excessive property valuations and because they were top-heavy with ornamental executives.

The book is marred, not only by certain hyperbolic excesses of style, but also by senseless misstatements of facts. Mr. Lewis is most interesting when he is calmly expository, least convincing when he adopts Ellis Searles' swashbuckling style of verbal assault. The volume, of course, is undisguised propaganda. We doubt whether its author would claim otherwise. Mr. Lewis, with his knowledge of labor policies and his ability to put them into pungent English, is in a position to write a non-argumentative, though partisan, exposition of the philosophy of the United Mine Workers which would be a permanent and a valuable contribution to economic literature. *The Miners' Fight for American Standards* never comes within striking distance of that goal.

SYDNEY A. HALE.



News Of the Industry



Anthracite Miners' Wage Demands at Atlantic City May Reach 30 per Cent; Operators Ready to Oppose Strike

Joint conferences in what promise to be the most momentous wage negotiations in the history of the anthracite industry since the famous strike of 1902 will open at Atlantic City, N. J., this afternoon, July 9. Representatives of the operators and the United Mine Workers will take up the 15 demands framed at the tri-district convention of the miners held at Scranton, Pa., last week. These demands include planks for general increases in pay to both day and tonnage men, a five-day week and several other proposals which would add materially to the labor cost of production. Payroll checks now being made may show the wage increases would total as high as 30 per cent.

The operators met in preliminary conference at the offices of S. D. Warrier in Philadelphia, Pa., Tuesday afternoon and moved on to the Hotel Traymore in Atlantic City yesterday to map out their lines of battle in the contest with the union. It goes without saying that the producers will fight vigorously any proposal to institute the check-off in the anthracite region. There is, too, a strong sentiment in favor of a reduction in wages to lessen the competitive pressure upon anthracite sales. John L. Lewis, international president of the union, however, has declared unequivocally that the miners will not agree to any downward revision in pay.

Lewis Gets Early Advantage

As in times past, Mr. Lewis and his associates have again seized the initial advantage by making a public confession and adoption of their demands. When stories that the miners would demand a 10 to 20 per cent increase first began to appear in the daily newspapers, about seven weeks ago, they were treated as toy balloons sent up by the union to test public sentiment. Up until the Scranton convention there were many observers who believed that the union would follow the same tactics it pursued at Jacksonville in 1924 and ask for a renewal of the existing agreement. There were some anthracite men who were resigned to that as inevitable. Those who took such a view felt that the rates now being paid were out of line, but saw no escape from them because they feared political intervention would come before it would be possible to win a reduction.

The truculent character of the keynote address delivered by Mr. Lewis at Scranton and the demands embodied

in the convention platform, however, have driven operators holding such views into the ranks of the group that believes a determined effort should be made to reduce production costs.

Though no official statement of the producers' position had been made at the time these lines were written, it is betraying no secret to state that the operators are a unit in their opposition to any increase in labor costs on hard coal. There was a time when some of them would have welcomed a short suspension—not to boost prices, but to bring supply more in line with demand. Such an interruption in mining would no longer be welcomed because the industry realizes that the purpose of a shutdown of three to six weeks would be grossly misinterpreted.

See Disaster in Higher Wages

In the brief negotiations preceding the 1922 strike the operators endeavored unsuccessfully to persuade the union representatives to agree to continue operations pending a settlement of the issues before the joint conference and by unrestricted arbitration. There is reason to believe that the operators would be willing to repeat these offers in the interest of the public.

In spite of statements that anthracite production is curtailed by design and that demand exceeds supply, the operators have had growing sales resistance ever since the war and realize fully that tamely to submit now to wage increases that would raise the price of coal would invite disaster.

With the exception of the check-off demand, the scale committee's report to the Scranton convention suffered no opposition. George Horne, of Locustdale, supported by a dozen delegates, demanded that the check-off be excluded from the demands. His voice in the convention was drowned by the howling and booing of the majority of delegates present.

The presentation of the demands will be followed by a suspension of mining, according to Andrew Matthey, president of the Hazleton district, who in the closing hour of the tri-district convention in Scranton on last Thursday, told the delegates to prepare for a shutdown on Aug. 31. Said he: "When your agreement expires there will be no new agreement reached, and the mines will close because the operators have 10,000,000 tons of coal in storage. When the mines are closed this will



Christ J. Golden

President of District 9, United Mine Workers, and chairman of anthracite scale committee.

begin to move, but at higher prices. Instead of paying \$18 for coal in some place the consumer will be paying \$25. For this you will be blamed. The miners will get the blame; the operators will get the dough."

Ask Two-Year Contract

The union demands are as follows:

"(1) We demand the next contract be for a period of two years, with complete recognition of the United Mine Workers of America, Districts 1, 7 and 9.

"(2) We demand that the contract wage scale shall be increased 10 per cent; all day men shall be granted an increase of \$1 per day; that the contract laborers' increase now being paid by the operators shall be added to the contract rates; that the differential in cents per day between classifications of labor previous to the award of the United States Anthracite Coal Commission shall be restored.

"(3) We demand uniformity and equalization of all day rates and that the consideration rate of each colliery shall be equivalent to the average daily earnings of contract miners under normal conditions and that for dead work performed by the contract miner he shall be paid this consideration rate; and that skilled mechanics, such as carpenters, blacksmiths, &c., shall be paid the recognized standard rates existing in the region; and that engineers and pumpmen who do repair work on their engines and pumps shall be paid the recognized mechanic's rate for this repair work; that first-class

hoisting engineers shall be paid a more substantial rate of wages in keeping with the responsibilities and nature of the work; and that all daymen shall be paid time and one-half for overtime and double time for Sundays and holidays.

"(4) We demand that where coal is paid for by the car it shall be charged and payment shall be made on the ton basis of 2,240 lb., and where dockage and penalties are now imposed for refuse that the amount of refuse to be permitted in any car shall be fixed by the mine committee and colliery officials in conformity with the agreement, and that the present unreasonable penalties and dockage shall be abolished.

"(5) We demand payment for all sheet iron props, timber, forepoling, extra and abnormal shoveling where such is not now paid for; and that the same full rates shall be paid for skipping as for splitting pillars, both advancing and retreating; advanced openings driven for development purposes shall be paid for on the proper basis covering such work; that in thin veins, where the pitch is not sufficient to carry the coal on the bottom, the distance of the working places shall not exceed 150 ft., and that jackhammers and air necessary for their operation shall be supplied to miners free of charge, and that company workers shall be supplied with tools for use in their work free of charge; and that electric lamps and batteries where used shall be supplied free of charge.

"(6) We demand that a uniform rate of twenty (20) cents per inch be paid for refuse in all kinds of mining up to ten (10) ft., wide, and that the rate for blasting top and bottom rock shall not be less than thirty (30) cents per inch, with the understanding that these rates are to be the minimum, not affecting higher rates that exist.

"(7) On the general improvement of conditions, looking toward greater efficiency in operation, and as an evidence of simple justice to those affected, we demand that the account of all cars loaded by the miner shall be credited at the working place; that maintenance men shall be continued at their regular necessary continuous occupations, and not replaced by others during broken time; that a five-day work week be established, which would permit of the working of the usual average number of days per year and provide for greater efficiency in operation and the elimination of the haphazard system of enforced idleness on different days, as is now the practice; that contract miners shall be provided with work at the consideration rate when, through no fault of their own, they are not permitted to work at the face of their regular working place; that all drivers should receive consideration for handling mules before and after quitting time; that in the laying off of men the older men in point of service shall have seniority rights, and likewise the older men in point of service who shall be out of employment shall be returned to such occupations available in conformity with the principle of seniority; that in the adjustment of grievances every possible improvement in the present system shall be made so as to provide for a more prompt and satis-

Harry C. Adams Dies

Harry C. Adams, 67, coal operator of Chicago, died at his home 420 East 50th St., June 27, after several months of declining health. He was president of the Peerless Coal Co., owning the Peerless mine at Springfield, Ill., and president of the Springfield Terminal Railroad Co., which runs a small connecting line serving several mines in the Springfield district. Mr. Adams also was head of the Central Illinois



Harry C. Adams

Coal Operators Association and for years was a spokesman for his district in labor negotiations.

Mr. Adams rose from railroad ranks, having made his start in the Columbus (Ohio) freight office of the Big Four. He became secretary to the general manager of the Ohio Central Coal Co., which later expanded as the Sunday Creek Coal Co. After another period in railroading he was made Chicago agent for the Turney & Jones Coal Co. In 1900 he and John S. Jones formed the Jones & Adams Coal Co. In 1915 he became president when Mr. Jones went to Columbus to be head of the Sunday Creek Coal Co. Jones & Adams eventually dissolved and Mr. Adams was made president of the Peerless Coal Co., in which the late Francis S. Peabody was interested. The Peabody Coal Co. has functioned for several years as operating engineers for Mr. Adams' company.

factory determination of such grievances under the contract; that a more comprehensive method be outlined to protect the miners in having them placed on consideration work when, through abnormal conditions, they are unable to make wages, that employees of rock and stripping contractors be brought under the terms of the general agreement, with the same privileges and rights of all other employees; that all employees of diamond drill contractors be brought under the agreement and that their rates shall be uniform and standardized as on a basis in keeping with the skill and knowledge required in the work."

Supplementary recommendations attached to the demands were:

M. K. & T. to Open New Kansas Coal Field

The opening of an important new bituminous coal field in Kansas was presaged in the announcement on June 30 of the discovery of a 5-ft. vein of coal in Labette County. The new field, while in the southeastern part of the state, lies some distance west of the present southeastern Kansas field. In places the new vein is said to attain a thickness of 6 ft. The Cherokee and Crawford County veins, to which southeastern Kansas operation heretofore has been confined, run from 20 to 40 in. thick.

The Pittsburg & Midway Coal Co., Charles F. Spencer, of Pittsburg, president, announced the discovery after it had taken options on the mineral rights of 5,600 acres of land in the new field for the Missouri, Kansas & Texas R.R. Farmers were paid \$35 an acre for the mineral options, but it is understood that the railroad interests were ready to pay \$75 more an acre for surface rights, where needed. The vein lies at a depth of from 600 to 800 ft.

The opening of the new field will be a fulfillment of the desire of the railroad to establish a coal supply on its own lines. Many oil-burning roads of the southwest in recent months have been considering the advisability of going back to coal in the interest of economy. The Missouri, Kansas & Texas was one of the first to take action when, a few weeks ago, it reconverted twenty of its locomotives out of the Parsons (Kan.) shops to coal.

J. K. Dering Passes Away

J. K. Dering of Chicago, head of the J. K. Dering Coal Co., died at 6 o'clock in the morning of July 6 after a brief acute illness. Mr. Dering, whose company now operates mines in Indiana and southern Illinois, had been a leading figure in the coal industry of the Middle West for a generation. He was markedly successful financially and of late years had been able to escape from the grind of business for many lengthy sojourns on his plantation in Mexico. The principal responsibilities of his coal operations recently have rested on James B. Pauley but Mr. Dering always was in close touch with coal affairs and his opinions were much sought after. His brother, Charles L. Dering, who survives him, conducts a coal jobbing business in Chicago.

"(1) Repairs, rebuilding and erection of new buildings are necessary to relieve the housing situation in many sections of the anthracite region, and we therefore recommend that our scale committee use every effort to have the general housing and sanitary condition of the coal companies' properties improved upon as much as possible.

"(2) A number of coal companies which operate one or more collieries at times when market conditions are dull, shut down some collieries completely and keep others in operation. We consider this most unfair and recommend that our scale committee use every effort to bring about an equal division of work at all collieries under any given company."

High Anthracite Prices Due to Trade Monopoly Says Trade Board Report

Monopolies in the anthracite fields and the pyramiding of prices by independents, wholesale and retail dealers are largely responsible for premium prices to consumers, according to a report to Congress by the Federal Trade Commission made public July 6.

"In order that the present generation may have an adequate supply of anthracite at a reasonable price, more effective competition must be established," the commission said. "Complete restoration of competition is not only practicable in the anthracite industry in the opinion of this commission, but, also, is preferable to price regulation, which has often been advocated with respect to this industry."

The commission feels that more information as to the actual conditions in the coal industry should be obtained and placed before the public. The suggestion is made that Congress set up a federal agency to obtain and publish currently "data on production, prices, costs and profits in the coal industry."

The report says the lack of current information in the frequently recurring emergencies in the coal trade is "the greatest obstacle to intelligent action on the part of the public and the government," and adds that "the premium prices of 1923 were the result of an anticipated shortage and a panic demand due largely to general ignorance of the real conditions."

According to the commission, the investigation just completed has revealed that the independents ran their prices above those of the eight big companies when there was fear of a shortage, or an actual shortage, and that the wholesalers also jumped their prices to the retailers and the retailers to the consumers.

The principal points developed by the investigation are as follows:

"A long period of monopolistic combination in the anthracite industry (now largely abated by recent judicial decrees) has resulted in concentration in the ownership of coal lands; in the failure to increase mining capacity adequately, so that production has not developed with demand; in the establishment of an unduly high general price level, and, in times of temporary or apparent shortage, in high premium prices at the mine which have encouraged and facilitated the taking of excessive profits both by wholesalers and retailers.

Blames High Premium Prices

"The existence of high premium prices at the mine has also led to speculative sales among wholesalers, thereby further enhancing the price paid by the retailer. During August and September, 1923, from one-third to more than two-fifths of the reported sales of premium anthracite was handled by two or more wholesalers before being sold to a retailer."

The report has attracted interest in some quarters because of the threat by John L. Lewis, president of the United Mine Workers, of calling out the



John L. Lewis
President of the United Mine Workers

bituminous coal miners if the operators continue alleged violations of the Jacksonville agreement. A suspension in the anthracite fields also is not unlikely in view of the miners' demand for a 10 per cent increase in wages, which the operators are expected to meet with a counter demand of a reduction.

Sargent to Ask Rehearing in Trade Association Cases

In announcing his intention to file petitions for rehearings in the Maple Flooring and Cement Manufacturers' Protective Association cases, the Attorney General made it clear that he is in no way challenging the principles laid down by the Supreme Court, but simply is attempting to show that there was violation of law in these particular instances. The Attorney General's statement follows:

"Petitions for rehearing in these cases are in course of preparation and will be presented to the Solicitor General within a few days. Leave was granted by the Supreme Court on June 8 to file such petitions within 30 days.

"The object of the petitions will not be to obtain a reconsideration of the principles of law enunciated by the Supreme Court in its recent decisions but to point out that the evidence in these cases brings them within prior decisions of the Supreme Court, the authority of which has not been questioned. In other words, the government will not take the position that the mere collection and dissemination of trade statistics is in itself unlawful but will endeavor to point out that the evidence in the records shows that both the Maple Flooring Association and the Cement Association were co-operating in the use of such information for the purpose of maintaining prices.

"The whole effort will be to show that the evidence leads irresistibly to the conclusion that the defendants, through their associations, had agreed to maintain prices and otherwise restrain trade within the prior decisions of the Supreme Court in the Hardwood Lumber and Linseed Oil cases."

Two Coal Mergers in Ohio Nearly Completed

Consolidation of coal companies operating in the eastern Ohio No. 8 district is expected to be announced within a few days. Operating and financial interests have been working over the details for more than six months and nearly all the difficulties are believed to have been overcome.

It is understood that at least two mergers are being considered, but that one of them far overshadows the other in tonnage involved. When both are completed practically the entire No. 8 field will be controlled by two corporations.

The larger of the two consolidations is expected to consist of the Youghiogheny & Ohio Coal Co., Lorain Coal & Dock Co., Clarkson Coal Mining Co., Pittsburgh & Ohio Mining Co., Maher Collieries Co., Central Coal Co., United States Coal Co. and two or three smaller concerns. The smaller consolidation is expected to center around the Wheeling & Lake Erie Coal Co., the Hanna property.

A few companies are understood to be considering joining the larger consolidation after the first alignment is completed, with the result that the company may grow by accretion for some time after the new corporation is formed.

The amount and nature of new financing which may be undertaken is not yet known to the coal trade.

S. H. Robbins, president of the Youghiogheny & Ohio company and chairman of the board of the Midland Bank of Cleveland, is to be chairman of the new company. R. L. Wildermuth, of Columbus, vice-president and general manager of the Lorain Coal & Dock Co., is to be vice-president in charge of operations, and H. L. Findley, vice-president of the Youghiogheny & Ohio company, is to be vice-president in charge of sales. If a president has been selected his name has not become public. Headquarters will be in Cleveland.

Less Coal Consumed by Industries in May

Industry used 3,158,000 tons less coal in May than in April, according to a report by the National Association of Purchasing Agents. The total is estimated at 29,548,000 tons, not including coal used for heating buildings, which is approximately 2,000,000 tons less than was used in the same month last year and about eleven million tons less than was used in May, 1923. Economies effected in the burning of coal during the last two years enable concerns to use less fuel for manufacturing the same amount of material.

Coal stocks on hand in industry at present are the smallest since the association has been compiling figures, a total of 39,317,000 net tons being estimated on hand June 1. This is sufficient for 40 days' supply in industry based on the amount consumed in May. Of the firms reporting, 18 per cent used more coal than in April, 53 per cent the same amount and 29 per cent less.

Congress May Intervene if Strike Is Protracted; Hard-Coal Operators Ready for Finish Fight on Check-off

By Paul Wooton

Washington Correspondent of Coal Age

While John L. Lewis' threat of a bituminous-coal strike took Washington by surprise, there is no thought that he will carry it out. There is increasing conviction, however, that a suspension in the anthracite region is most likely. Competition from oil and other fuels makes the anthracite operators doubly anxious to take advantage of what seems to them the most favorable opportunity in many years to reduce their labor costs.

They had hoped that the bad situation in the Central Competitive Field would result in some agreement which would pave the way for a reduction in the anthracite region also, but apparently the possibility of trouble in the anthracite fields has been the one thing that has prevented such an understanding.

Just how an anthracite strike will result in an increased demand for coal from the Central Competitive Field is not thoroughly understood here. The Northwest will have most of its coal before the present agreement expires. The use of anthracite in the Middle West no longer is large and most of the requirements of that section already have been filled. The substitution will be confined to New England and the North Atlantic seaboard states. Substitution there more naturally would be with non-union coal. One of the reasons why the anthracite producers are so insistent upon a wage reduction is the very active efforts being made to sell smokeless coal in that region.

Will Fight for Check-Off

Information reaching Washington is to the effect that the effort to obtain the check-off in the anthracite districts will be more determined than on any previous occasion. For the ordinary purposes of the union the button does very well, but now the great need is for special assessments.

The campaign to organize the non-union districts requires large amounts of money. Enough cannot be raised for that purpose from the bituminous miners when so many of them are out of employment. Every two-dollar assessment in the anthracite districts will raise more than \$300,000.

Even with the competition that they are facing and the difficulty of passing on increased costs, it is conceivable that enough pressure could be brought to cause the anthracite operators to yield on a question of wage, but those familiar with sentiment among them declare that no amount of pressure will induce them to accept the check-off. They are even more determined now than ever before not to place in the hands of the mine worker this weapon which could be turned with such effect upon them and upon the bituminous operators, with whom, after all, there is a close community of interest.

While there is reason to believe that the union is preparing to make a determined fight for the check-off, it is at a disadvantage in that it might alienate the sympathy of the railroad unions. Reliance is being placed on them to cripple the distribution of non-union coal. They probably would not cooperate very heartily or effectively were the check-off the issue. Railroad workers do not conceal their contempt for this evidence of lack of loyalty and they do not hold in high regard a union which must resort to such a method to collect its dues.

As is the rule in these clashes in the coal industry, no opportunity will be given the participants to fight out their differences without political interference. Mr. Lewis, as in the past, will find a way to bring about intervention by some authority, state or federal. In view of the disastrous consequences to the operators of such intervention in the past, it may be that in this instance they will insist on being let alone.

If differences have not been adjusted before Congress convenes in December that body is certain to take a hand, even if administrative officials have not intervened before that time.

The one thing that may influence the anthracite operators to consent to government arbitration, or to accept a compromise that will be satisfactory to the union, will be the fear of federal regulation. It may become a question of deciding between the lesser of two evils. The bituminous operators have more fear of regulation that have the operators in the anthracite field. If regulation is threatened, the bituminous operators are likely to join forces with those who would favor nearly any compromise before precipitating a fight in Congress on regulation. The sentiment among the anthracite operators, however, is said to be for a finish fight on the check-off at least. They are said to feel that the question of regulating the coal industry must come up sooner or later and that the chances of beating it are likely to be as good in the next Congress as at any time in the future.

Allow 20 per Cent Wage Cut In Northern Colorado

Reduction of the wages of coal miners to what is known as the 1919 scale was allowed nine coal mining companies in the northern Colorado field by the State Industrial Commission on June 26. The award constitutes a reduction of 20 per cent from present wages.

The award is a partial victory for the miners. The companies had asked permission for a reduction to the 1917 scale. That would have meant a reduction of approximately 30 per cent.

Green Urges Co-operation By Church and Labor

The happiness of the American people can be "best promoted" through an understanding and co-operation between the religious forces of the nation and its organized labor groups, declared William Green, president of the American Federation of Labor, at Buffalo, N. Y., June 28.

Addressing the New York State Christian Endeavor Union, Mr. Green urged "co-operation on all subjects of common interest embodying the essence of morality, justice and fair dealing," and said that "regarding those subjects upon which we may not be in accord we can, at least, maintain a charitable and sympathetic attitude toward each other."

The Federation, he said, will continue its fight for compulsory education, for "if men and women are to exercise the power of self-government, above all they must understand our form of government, its institutions, its ideals and its structure."

The commission made its findings after extended hearings at several coal camps, at which representatives of the operators and miners took the witness stand. The reduction was opposed by the miners. Just what the men will do now is not known to the members of the commission.

The companies affected are the William E. Russell Coal Co., the Consolidated Coal & Coke Co., the Boulder Valley Coal Co., the National Fuel Co., the Grand Junction Mining & Fuel Co., the Big Four Coal & Coke Co., the Crown Fuel Co., S. Domenico & Sons and the Clayton Coal Co.

Crowe Mine Squabble Goes To International Union

The controversy between representatives of union miners and the J. R. Crowe Coal Co. over the operation of the two Crowe mines at Henryetta, Okla., on an open-shop basis will be referred by the union representatives in the Southwestern district to the international union headquarters. A conference at Kansas City, Mo., last week between officials of the Crowe company and the union did not result in an agreement. The mines are now operating part time on the open-shop plan. Union men are picketing the properties.

These union officials were at the conference: William Dalrymple, president of the Oklahoma district, No. 21; Daniel O'Connell, vice-president of the Kansas district, No. 14; Harry W. Burr, secretary-treasurer of the Kansas district; James Fitzgibbons, Kansas district; James Bell, district board member of Oklahoma; John S. Cochran and D. A. Frampton, international union representatives. Mr. Crowe and H. D. Buchanan, vice-president of the Crowe company, represented the coal company.

Watson Tells Lewis Union Agreement "Collapsed" and Thus Was Not "Abrogated"

The agreement between miners and operators in West Virginia and elsewhere "collapsed" and therefore the Consolidation Coal Co. did not "abrogate" it. This was the answer C. W. Watson, chairman of the board of the Consolidation, made to John L. Lewis, president of the United Mine Workers, in reply to the latter's charge of contract breaking. Mr. Lewis made the charge against Mr. Watson's company, the Pittsburgh Coal Co. and the Bethlehem Mines Corporation during a speech at the anthracite miners' convention in Scranton, Pa., June 30. Mr. Lewis threatened a nation-wide soft-coal strike "to enforce the Jacksonville agreement," but he has made no public move since then to bring about a strike. However, correspondence between Mr. Lewis and Mr. Watson dealing with the "abrogation of contract" and setting forth both sides of the case has been made public within the week.

In the Lewis-Watson correspondence Mr. Lewis first wired Mr. Watson asking if it was true the Consolidation Coal Co. was going to abrogate the contract June 1. Mr. Watson replied that the Fairmont mines of the company had been shut down because further operation had become impossible in the face of large losses due to the existing wage contract. He said 1,100 employees had left the Consolidation, many to work for competitors at wages below the union scale, and that many others, who had been employed on part time, had asked the company for work under conditions offered at non-union mines.

Mr. Lewis sent back a telegram reminding Mr. Watson that the Consolidation had signed the wage agreement, which still had 22 months to run, and that he could see no reason why the Consolidation should break the contract because other companies had done so.

Suggests Inspection Tour

In answer, Mr. Watson said that Mr. Lewis was unfamiliar with conditions in the West Virginia field and suggested that they make a tour of inspection together.

Mr. Lewis countered that he did not question Mr. Watson's statements that much coal was being produced in West Virginia under non-union conditions at reduced wages, but declared that this was due to the action of large numbers of operators in the fields in repudiating the wage contract. He recalled the signing of the agreement by the Consolidation and said that he expected the company to abide by it.

Mr. Watson wired back that he was mailing a memorandum covering conditions in the West Virginia fields. In this he set forth that it had been proved that the wage agreement no longer existed as a working reality because of repudiation by both sides. Production was being carried on almost wholly under non-union conditions, he declared.

The memorandum of conditions in the field follows:

"The collapse of the so-called 'Balti-

Alberta Miners Quit U. M. W.

About 800 coal miners in the Drumheller field, Alberta, have withdrawn from the United Mine Workers and formed their own local union. Nearly 500 of the men are on strike against an agreement signed by the big union officials with the operators.

The original strike, declared June 30, resulted from failure to reach an agreement on a proposal by the operators that the wage scale be reduced about \$1 a day. Six mines are affected. Only minor disturbances have occurred in the district.

more Agreement', entered into between the Northern West Virginia Coal Operators' Association and the sub-district organizations of District No. 17 of the United Mine Workers, may be briefly summarized as follows:

"(1) At the time of the negotiations it was informally agreed between representatives of the two parties that at least 20 per cent of the production in the region was being produced under non-union conditions. Subsequent investigation showed that this was, if anything, an underestimate. It was also agreed that this situation offered a distinct menace to the stability of the union agreement, and that its spread, to any appreciable extent, could only destroy it.

"(2) During subsequent months, regular and careful surveys of the situation revealed the following steady growth of non-union production, and an equally steady decline of tonnage produced under the Baltimore agreement:

NORTHERN WEST VIRGINIA FIELD—
AVERAGE DAILY CAR LOADINGS

	Union and Non-Union Mines			Per Cent	
	Union	Non-Union	Total	Union	Non-Union
1924					
June...	736	438	1,174	62.7	37.3
July...	636	444	1,080	58.8	41.2
Aug....	673	508	1,181	57.1	42.9
Sept....	776	605	1,381	56.3	43.7
Oct....	832	727	1,559	53.4	46.6
Nov....	885	792	1,677	52.7	47.3
Dec....	743	759	1,502	49.5	50.5
1925					
Jan....	747	938	1,685	44.3	55.7
Feb....	593	961	1,554	38.1	61.9
Mar.*..	601	939	1,540	39.0	61.0

*Percentages for the last week in March were: Union, 33.4, Non-Union, 66.6.

"(3) When the sales contracts secured prior to the Baltimore Agreement expired with the beginning of the new coal year, April 1, 1925, practically every union operation of any size, with one exception, suspended. The exception was the Consolidation Coal Co., which, with a greatly reduced number of mines, continued its efforts to operate for another month or more. This company then likewise came to a practically complete shutdown, forced by heavy losses and by its practical isolation in the matter of labor costs.

"(4) In recent weeks almost the entire output of the region, totalling nearly 1,200 cars daily, has been produced by operators and mine employees working together under non-union conditions of wages and employment. From whatever motive or cause, the essential fact is now the almost com-

plete repudiation of the Baltimore wage contract by both sides. As a working reality it no longer exists.

"(5) During these months the affairs of District No. 17 of the United Mine Workers had been put into a state equivalent to a receivership. The duly elected district officials were supplanted by personal representatives of the president of the national organization, and local autonomy and control were suspended. Thousands of the union members openly withdrew from the wage contract as individuals by seeking employment wherever it could be obtained under the terms available. Briefly, the situation now consists of outside officials, neither chosen by nor accountable to the rank and file of the district membership, and who supervise a body that is only a fraction of the original organization in this field. In other words, so far as their individual economic action is concerned, the union contract relationship has been specifically repudiated by an overwhelming majority of the union members. As for the officials, there are none who can speak for the district but only for the national body.

"(6) The alternatives now facing both the union operator and the union employee are, therefore, not the choice between both working under the contract and either breaking it. The contract, being in its essence a collective agreement, is already broken and gone. Neither side has been able to cope with the forces which brought this about. The present alternatives, and the only ones, are those between sharing idle mines and unemployment on the one hand, and sharing competitive production and prevailing wages on the other.

"(7) Essentially this is a choice which now rests solely upon the individual employee, just as it has already been decided by thousands of them. If an employee of a company, both hitherto bound by the union contract, prefers to endure months of unemployment throughout the remaining term of the contract, in order to maintain his union membership, that is his privilege. If, on the contrary, he prefers not to assess this penalty upon himself and his family as the price of his union affiliation, but decides rather to exchange a printed scale for actual earnings, that also is his right. The company can neither compel the one nor deny the other.

"(8) Under such conditions the issue to be decided is not the technicalities of a document which exists only in the files of the operator and employee but their mutual decision on the obligations which they owe to the families and to the properties entrusted to their care. These obligations existed prior to and independent of the relationship to the third party of the union."

The Northwestern Coal Dock Operators' Association on June 24 sent to the Federal Trade Commission a report of compliance with the cease and desist order of the commission, which was amended to conform to the decisions of the Supreme Court in the Maple Flooring and Cement cases, in reference to distribution of trade information.

Strikers' Cause Now Seems Hopeless In Northern West Virginia Field; Union Seeks to Involve Government

Threats made by International President John L. Lewis of the United Mine Workers and other international officers are not taken very seriously by West Virginia coal operators. Instead of fearing harm to non-union production in northern West Virginia, they look upon Lewis' utterances as a prospective business stimulator. Some labor leaders think Lewis' next move will be to involve governmental authorities.

If present non-union coal-production figures can be taken as a criterion, and no doubt they can be, the northern West Virginia coal fields are lost to the union. Nothing short of an anthracite strike or some powerful stimulus to the bituminous coal industry can help the United Mine Workers here and it is even a grave question whether that would aid their cause very much.

Eighty-six per cent of the coal production was non-union during the first three days of last week; the open-shop mines produced 3,772 cars of coal compared to 594 cars loaded by union mines. In the first half of the week there were 154 non-union mines at work daily on the average, while 10 union mines worked.

Many Operations Resume

The West Fairmont Shaft, which is located within the limits of the City of Fairmont, was opened by the Consolidation Coal Co. July 2, when 28 men started to clean up the plant preparatory to running coal. The Hutchinson Coal Co. has resumed operation at Robey mine, in the Clarksburg section of the field. Highland mine of the Consolidation Coal Co. is expected to open within a short time. Perry mine No. 50, a coal station of the Consolidation Coal Co., is now fueling B. & O. engines, it being located near Clarksburg.

A new daily production record of 1,580 net tons was made June 25 at the Osage mine of the Brady-Warner Coal Corporation, in Scott's Run. This excels the mine's production even under union conditions, Major Samuel D. Brady announced.

Late last week Attorney John B. Wyatt announced that he was at work preparing an injunction restraining the United Mine Workers from molesting the miners employed at Owings mine of the Consolidation Coal Co. Mr. Wyatt says he represents the new miners' union and not the company in the proceeding.

The union miners say that the company is taking this position because the Wyatt miners have been picketing Owings mine, which the concern is working on a non-union basis.

Everything is quiet in the Panhandle Coal fields of northern West Virginia. In Elkins, June 29, Federal Judge W. E. Baker filed a memorandum denying, because of lack of jurisdiction, the application of the Mineral State Coal Co. and 18 other companies for a preliminary injunction against John L. Lewis, president of the United Mine Workers; certain district officials and others. A

temporary restraining order in this case was granted June 2, which has been continued in force, pending Judge Baker's decision.

Another effort is being made by the United Mine Workers to draw the government into the strike situation in northern West Virginia. Van A. Bittner, chief representative of the miners' union, sent a telegram to Secretary of Labor James J. Davis in Washington, D. C., July 1, scoring coal companies in the Fairmont field for alleged abrogation of their contract. The telegram reads:

"The Consolidation and Hutchinson Coal companies are the latest operators in northern West Virginia to abrogate their agreements with the United Mine Workers. It is my opinion that the miners will defeat these contract abrogators on the industrial field, but we think it is a disgrace and shame that the action of these companies necessitates our people going through all the hardships of an industrial war to force coal operators to comply with their wage agreements. We think the time has come when the government of our country shall say to these coal operators: 'you must comply with the agreement you made with the United Mine Workers of America.' The United Mine Workers does not propose to be driven back to the 1917 wage scale by this method of guerilla warfare, and unless these coal companies are forced to comply with their wage agreements we are fast approaching the place when a general strike of all the bituminous miners of the country will be inaugurated to preserve our wage scale against the most dishonorable and shameful conspiracy among coal operators that has ever been formed in any country in the civilized world."

Bittner Echoes Lewis

After saying that the strike situation in northern West Virginia is favorable, Mr. Bittner says that the recent address of International President John L. Lewis to the hard coal miners in which a general strike is threatened, "is certainly a definite statement of the position of the United Mine Workers."

The union continues its advertising campaign in newspapers in northern West Virginia and carries a page advertisement in which the "American plan" is attacked.

An attack was made last week by Mr. Bittner on Attorney John B. Wyatt, of Shinnston, counsel of the new miners' union in northern West Virginia, in which the status of its members is discussed. In a statement issued recently Mr. Wyatt said that the miners employed at the company contract plants cannot be classed as non-union, open-shop or "American plan" miners. To this Mr. Bittner says: "The United Mine Workers surely agrees with this statement. Regardless of what subterfuge these men attempt to hide behind, they are nothing more than common ordinary scabs, and the fact that any



Philip Murray

Vice-President of the United Mine Workers

of them have attached their names to petitions, circulated by the coal company, proves they are registered for the rest of their lives as scabs."

Mr. Wyatt's reply was: "I can truthfully say that the miners now working in the Consolidation Coal Co. mines feel that \$4.60 a day is more than \$7.25 a day under the old scale, because under the Baltimore agreement there was nothing, while under this plan the men are working and getting paid regularly."

Recently the Rachel mine of the Bertha-Consumers Co., at Downs, near Fairmont, resumed operations on a non-union basis. Miners' officials say that John Jones, president of the company, informed them he will not countenance an abrogation of contract. "The mine will remain closed until the company can sell coal at a price where it can pay the scale," the statement said. Despite this statement 42 men were at work at Rachel mine during the middle of the week. E. Frank Miller, general superintendent of the mine, declared that the mine will continue to work on an open-shop basis. He added that the men, all Americans, represent the majority of those employed when the mine last closed down. The mine is paying the same wage scale as the neighboring non-union mines.

Several hundred pickets gathered on the first morning the mine worked, but the number dwindled each day afterward. In a second statement Mr. Bittner says that Mr. Jones notified the miners' officials in the presence of Mr. Miller that he would not abrogate the contract. Mr. Bittner and William Turnblazer, president of District No. 19, were so notified, the miners say.

The miners' union reports that the J. H. Weaver & Co. interests at Rosemont have posted notices that the wages of the daymen were to be reduced from \$4.52, and a 12 per cent cut made in tonnage and yardage rates, which, it is stated, is below the 1917 scale. Reductions will be made at the Wendel mine of the Maryland Coal Co. after July 15, to meet other non-union competition, the miners' union says in a statement.

Consumers' Stocks of Soft Coal Fell to 38,000,000 Tons June 1; Hard-Coal Reserves for 52 Days

An inventory of the stocks of bituminous coal in the hands of consumers conducted by the Geological Survey reveals that the total quantity in storage on June 1, 1925, was 38,000,000 net tons, against 44,000,000 tons on March 1, 1925, and 51,000,000 tons on June 1, 1924. The trend of stocks has been steadily downward since the early part of 1924 and the heavy reserves built up by consumers in late 1923 have been reduced to more normal proportions; in fact, the present supply is slightly less than that in the summer of 1921.

Measured in tons, there was a reduction in stocks of 19 per cent during the period Sept. 1, 1924, to June 1, 1925, of which 14 per cent occurred during the last three months. At the rate of consumption prevailing from March 1 to June 1, the stocks on June 1 would last 32 days if evenly divided, a decrease of 29 per cent compared with the 45 days' supply on hand Sept. 1, 1924.

In addition to the quantity in the storage piles of consumers and dealers, it is estimated that the following quantities were in transit on June 1: On the commercial docks of Lakes Superior and Michigan, 3,800,000 tons; in storage at the mines or at intermediate points, 150,000 tons.

Anthracite.—Retail dealers in anthracite had a 52 days' supply of that fuel on June 1, an increase of 11 per cent over the supply on March 1 and slightly more than that on June 1, 1924. The movement of anthracite in the Lake trade began early this season and as a result the total on the upper Lake docks now stands close to 1,000,000 tons. This is more than double the quantity on the corresponding date a year ago.

The estimate of soft-coal stocks, which is based on reports from a selected list of about 5,000 consumers, does not take into account the coal in the bins of householders, steamship fuel, and the tonnage on Lake docks.

The latter item is classed as coal in transit.

The liquidation of the near-record bituminous coal reserves of Jan. 1, 1924, has now gone on steadily for a year and a half, and the total stocks on June 1 were lower than any on record for a normal corresponding date. The reserves on that date were not quite twice those of June 1, 1920, when an acute shortage resulted in a panicky market with runaway prices.

The reports from consumers, supplemented by information from other sources, indicate that the rate of soft-coal consumption—including exports—from March 1 to May 31, 1925, was at the rate of approximately 1,250,000 tons a day, or 8,750,000 tons per 7-day week. During the preceding 6 months, Sept. 1, 1924, to March 1, 1925, the average daily rate of consumption was about 1,480,000 tons.

Fig. 2 gives a comparison of the days' supply of the seven principal classes of consumers on June 1, 1925, with those on the same date of 1924. The individual reserves of each group were appreciably less than they were a year ago, and the total days' supply was 35 per cent less than on June 1, 1924.

In studying the figures it should be borne in mind that they are averages and that the days' supply on June 1 is based on the spring rate of consumption, which normally is less than in the fall and winter.

Fig. 3 shows the geographical location of the days' supply at industrial plants, excluding steel and byproduct coke works. This is the largest single group of consumers, both numerically and from the viewpoint of consumption, and the one that illustrates best the general distribution of reserves. It is a sensitive business barometer, and changes in its activity are quickly reflected in the coal market.

On June 1, 1925, the industrials had

an average of 32 days' supply, at the rate of consumption during the period March 1 to June 1, against a 40 days' supply on March 1, 1925, 53 days' supply on June 1, 1924, and 39 days' supply on June 1, 1923. The present stocks at such plants are sufficient for 8 days longer than those of June 1, 1920, when the actual tonnage held was at the lowest level on record and business was active.

Eighteen states had less than a 30 days' reserve, and 18 had stocks sufficient to last 30 days but less than 60. New England, with a 60 to 90 days' supply, had smaller stocks than usual at this season. Stocks in excess of a 90 days' supply were confined to the northern peninsula of Michigan.

The public utilities as a unit were in a stronger position than any other consumers, and on June 1, 1925, the electric power plants had a supply sufficient to last 48 days, and coal-gas plants had a 68-day reserve. Although well supplied, as compared with other classes of consumers, the reserves of the utilities are perceptibly lower than on other recent dates.

Practically complete returns from the manufacturers of byproduct coke and iron and steel indicated the following reserves on June 1, 1925, as compared with those a year ago:

Byproduct Plants

	Days' Supply	
	June 1 1924	June 1 1925
Low volatile.....	41	14
High volatile.....	32	24
Average.....	34	20

Steel Works

	Days' Supply	
	June 1 1924	June 1 1925
Steam coal.....	46	26
Gas coal.....	74	31
Average.....	56	27

The sharp decrease in the supply held by these two groups was due to a marked increase in activity as compared with the summer of 1924, and to a decrease in the actual tonnage on hand. The 20 days' supply at byproduct plants on June 1, 1925, was but 59 per cent of that of a year ago, and the steel

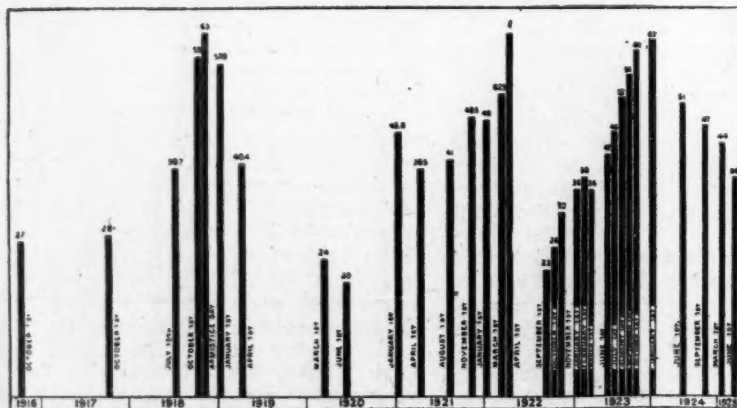


Fig. 1—Total Commercial Stocks of Bituminous Coal
Oct. 1, 1916-June 1, 1925

Figures represent million net tons and include coal in the hands of railroads, industrial consumers, public utilities and retail dealers. Coal for steamship fuel, on Lake docks, in transit, and in the bins of householders is not included. The heavy stocks that were accumulated in 1923 have been reduced by nearly half. The present reserves are less than any recorded during the last seven years, except during the acute shortage of 1920 and the period following the miners' strike of 1922.

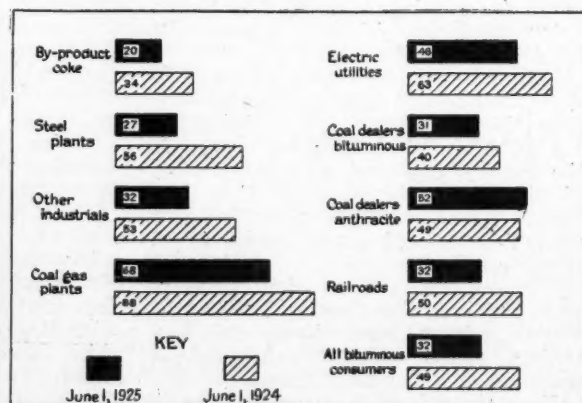


Fig. 2—Days' Supply Held by Different Classes of Consumers, June 1, 1924, and June 1, 1925

At the rate soft coal was burned from March 1 to May 31, 1925, the total quantity in storage on June 1 was sufficient to last 32 days on the average against a 49 days' supply on June 1, 1924, at the rate of consumption then prevailing. The tonnage now in reserve is 25 per cent less than that a year ago and because of the increased consumption would last only two-thirds as long.

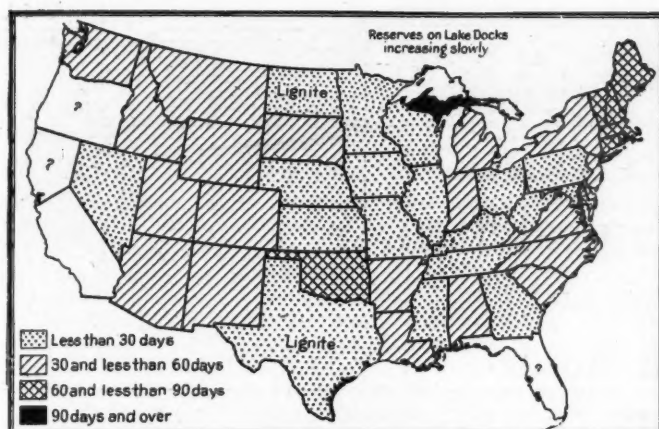


Fig. 3—Days' Supply of Soft Coal on Hand at Industrial Plants June 1, 1925

Distribution by states of the 32 days' supply of soft coal held at industrial plants, other than steel and byproduct coke works. Stocks generally were light and in the northern peninsula of Michigan only was there a 90 days' supply. New England and most of the Atlantic Coast states had a 60 days' supply. With but few exceptions, the interior states west to the Rocky Mountains had less than a 30 days' supply.

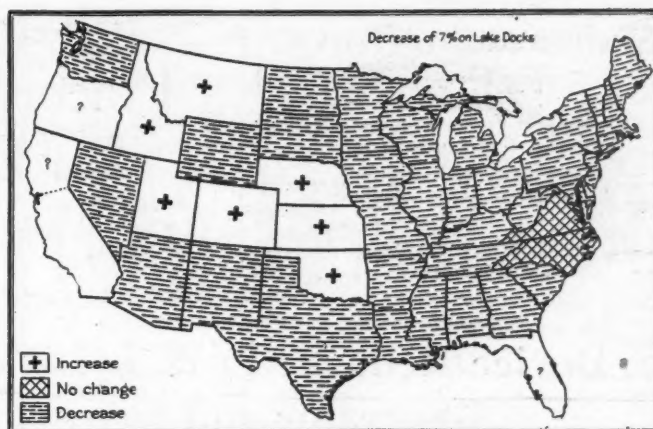


Fig. 4—How Stocks at Industrial Plants on June 1, 1925, Compared with Those on June 1, 1924

The map shows how widespread has been the reduction in soft-coal reserves at general industrial plants. Increase in stocks over those of a year ago were confined to a group of Western states. Except in that territory and in Virginia and North Carolina, reductions in stocks have been universal. This change relates to actual tonnage on hand and in no way reflects the rate of consumption.

Days' Supply of Bituminous Coal in Hands of Various Classes of Consumers in the United States, January 1, 1919, to June 1, 1925. (a)

(Figures represent number of days supply would last at current rate of consumption at time of stock-taking)

	Jan. 1, 1919	Apr. 1, 1919	June 1, 1920	Apr. 1, 1921	Mar. 1, 1922	Mar. 1, 1923	June 1, 1923	Sept. 1, 1923	June 1, 1924	Sept. 1, 1924	Mar. 1, 1925	June 1, 1925
Byproduct coke plants.....	32	23	8	28	39	19	23	30	34	30	25	20
Steel plants.....	42	35	11	38	48	26	29	33	56	42	30	27
Other industrials.....	65	47	24	47	56	34	39	56	53	48	40	32
Coal-gas plants.....	81	58	22	66	82	58	75	110	88	90	78	68
Electric utilities.....	49	48	22	48	54	34	45	52	63	58	51	48
Coal dealers, bituminous.....	39	25	10	26	23	11	27	38	40	46	33	31
Railroads.....	32	(c)	10	24	42	16	21	44	50	42	35	32
Total bituminous.....	42	31	15	36	43	22	30	46	49(d)	45(d)	37(d)	32(d)

(a) The figures in this table are estimates based on incomplete data. (b) See text for rate of consumption at which these figures were calculated. (c) No data. (d) Subject to revision.

plants, with a 27-day reserve, had less than half of the total for the earlier date.

Reports from the railroads, furnished through the courtesy of the American Railway Association, indicated that the total railroad fuel in reserve was in the neighborhood of 10,500,000 tons, a supply sufficient to last 32 days at the present rate of consumption. A year ago the railroads had a 50 days' supply.

At the rate of delivery of soft coal to the householders this spring, retailers' stocks on June 1, 1925, were sufficient to last 31 days. At the rate of delivery during the summer of 1924, the stocks on June 1, 1924, would have lasted 40 days. Compared with stocks on the corresponding date two years ago there was a decrease in the actual tonnage on hand, but because of the reduced rate of delivery the present supply appears slightly higher.

The total quantity of soft coal in transit has never been measured accurately, but available information indicates that the quantity in transit from the mines on March 1, 1925, was about three quarters of a million tons more than on Sept. 1, 1924, and on June 1 it was a million and three quarter tons less than on March 1.

Bituminous coal stored by producers on June 1, 1925, was barely 150,000 net tons. On June 1, 1924, the same companies reported 370,000 tons, and in the spring of 1923, more than 800,000 tons. The total quantity of unbilled coal in cars at the mines on June 1 was about 800,000 tons, a decrease of 200,000 tons from the figure for March 1.

The Lake season of 1925 opened early and shipments up the Lakes, to the end of May, exceeded those during the corresponding period of 1924 by more than 1,000,000 tons, but were about 1,000,000 tons less than in 1923. The tonnage moved off the upper docks about as fast as it was received, however, and there was but little accumulation of reserves. Reports furnished by the Lake Superior Coal Dock Operators' Association and the dock operators of Lake Michigan show the following total stocks: June 1, 1925, 3,800,000 tons; March 1, 1925, 3,840,000 tons; June 1, 1924, 4,150,000 tons; June 1, 1923, 1,591,000 tons.

Stocks of unsold coke at 21 byproduct plants supplying gas for city use were greatly reduced during the winter of 1924-25 and the total remaining on March 1—606,000 tons—was 45 per cent less than the quantity on hand last September. The unsold supply increased slightly during the next three months and on June 1 the total was 694,000 tons. The record of coke stocks on recent dates for which statistics are available has been as follows: Jan. 1, 1924, 772,000 tons; June 1, 1923, 202,000 tons; Jan. 1, 1923, 212,000 tons; March 1, 1922, 987,000 tons.

Unlike bituminous coal, large quantities of anthracite are stored at the mines or at intermediate points en route to consuming centers. Unfortunately it has been impossible for the government to obtain complete information on this important subject, and accurate total, therefore, cannot be given at this time.

New York Anthracite Prices For July, 1925

(Per Gross Ton, f.o.b. Mine)

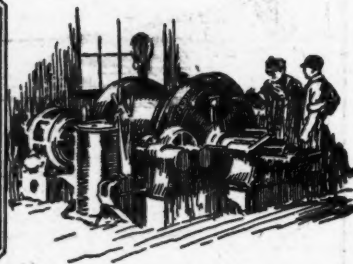
	Broken Egg	Chest-nut	Stove	Pea
Lehigh & Wilkes-Barre Coal Co.	\$8.15	\$8.55	\$9.05	\$8.55
Lehigh Valley Coal Sales Co.	8.25	8.60	9.05	8.80
Lehigh Coal & Navigation Co.	8.80	8.80	9.20	8.70
D. L. & W. Coal Co.	8.25	8.55	9.05	8.55
Hudson Coal Co.	8.55	8.55	9.05	8.55
Phila. & Reading Coal & Iron Co.	8.80	8.75	9.15	8.75
M. A. Hanna & Co.	8.50	8.80	9.30	8.80
Steam sizes: Buckwheat No. 1, \$2.50; rice, \$2; barley, \$1.50; birdseye, \$1.60.				

In the construction of public buildings little attention has been given to furnace location with the idea of facilitating the handling of coal. A recent survey of public buildings in the District of Columbia disclosed that costs of handling coal from the truck to the firebox varies from 37c. to 42c. a ton. Conditions in this respect are practically as bad in buildings recently constructed as in the older ones. The matter has been the subject of consideration at a conference with the Supervising Architect.

After numerous postponements, Robert M. Lambie, of Charleston, chief of the West Virginia Department of Mines, has announced that the inquest on the Barrackville explosion by the coroner's jury will be continued in Fairmont on Thursday, July 16.



Practical Pointers For Electrical And Mechanical Men



Device Reduces Peak Loads on Motor-Generator and Saves Time

Peak loads, not average loads, are the ones which ordinarily limit the practical capacity of mine substation equipment. Reducing or limiting the peaks is usually equivalent to installing additional generator capacity. A specific instance of such a case is that at the Shamrock mine of the West Kentucky Coal Co., at Providence, Ky.

A year or so ago the direct current power plant at this mine was abandoned in favor of purchased power and a 300-kw. synchronous motor-generator set installed. It was soon found that the motor-generator would not handle the peak loads if the field of the synchronous motor was adjusted to give the desired power factor at the average load.

The operating condition was this: If the power factor was adjusted

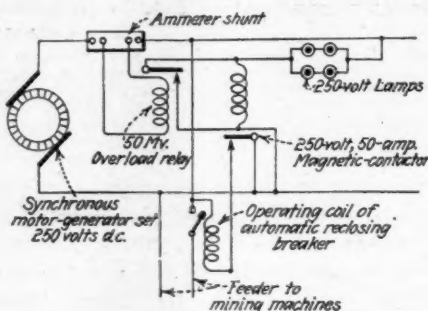


Fig. 2—Diagram of Connections

The added apparatus is used in connection with the ammeter shunt, and with the automatic-reclosing circuit breaker of the mining machine feeder.

to 80 per cent leading at the normal low load of 200 to 300 amp. then it would drop to 80 per cent lagging at the full load of 1,000 amp., and the synchronous motor would pull out of step at peaks of over 1,800 amp. If the power factor was adjusted to 90 per cent leading at 300 amp., then the motor would pull out at 1,500 amp.

The short time maximum loads of 1,800 amp. or more were caused chiefly by coincident peaks of the one 12-ton and two 10-ton haulage locomotives. The rather steady mining machine load of 200 to 300 amps. was just enough, in addition to the locomotive peaks, to cause the trouble. At the Shamrock mine, as is also the practice at other mines of the West Kentucky company, the mining machines are operated from a separate circuit which is protected by an automatic reclosing breaker installed at the substation switchboard.

This arrangement of the mining machine circuit made possible the installation, at small cost, of a device which obviated the necessity of installing a second motor-generator set. The device opens the mining machine breaker whenever the total load on the substation reaches 1,800 amp., and does not allow the breaker to reclose until the load has dropped to approximately 1,500 amp.

To accomplish this, there was added to the direct-current feeder panel, only that equipment which is seen mounted on the bracket in the left center of the illustration shown in Fig. 1. The combination of a type-T.U., 50-mv. overload relay, a bank of four lamps and a 250-volt, 50-amp. magnetic contactor does the work. The relay has independent adjustments for setting to open and close at the desired current values, and is enclosed in a dustproof metal case, the cover of which was removed when the photograph was made.

A diagrammatic sketch of the circuit arrangement is shown in Fig. 2. The relay coils are connected across the ammeter shunt and the relay contact points across the coil of the magnetic contactor. The lamps are used in series with the contactor coil. The action of the contactor opens and closes the operating-coil circuit of the mining machine breaker.

Sherman Melton, electrical engineer of the West Kentucky Coal Co., states that the device has been entirely satisfactory in operation, and that the delay to the cutting machines, caused by the action of the relay in opening the feeder breaker, is much less than the time loss suffered previously by the whole mine when the main breaker opened or the motor-generator dropped out of step.

Transformer Mounting Is Safe and Accessible

A marked tendency is shown in new installations to locate power transformers where they can be easily mounted and readily inspected. The illustration shows an installation method which is a compromise between a high-pole and a ground mounting. These transformers, each of 20-kw. capacity, supply power at 220 volts to the 30-hp. motor driving the rope-and-button conveyor at the new mine, No. 5-B, of the Columbus Mining Co., at Allais, Ky. The installation is alongside the retarding conveyor and about 100 ft. from the

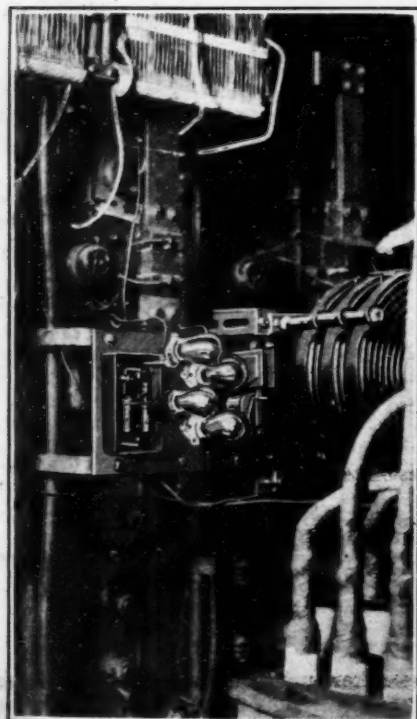
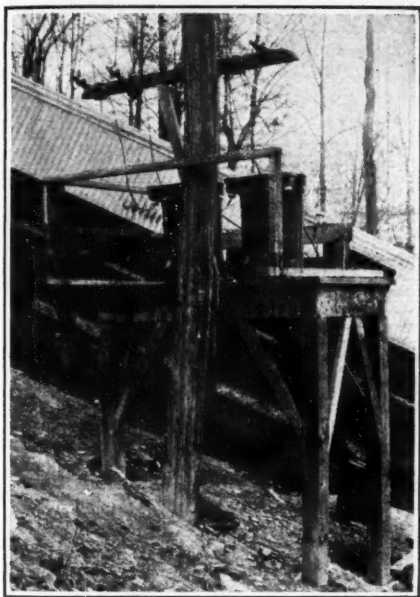


Fig. 1—Mounted Back of Switchboard

A 50-mv. relay, four lamps, and a 50-amp. contactor make up the special equipment. These are seen on the bracket in the center of the photograph.



Inspection Is Easy Here

This method of installing transformers is a compromise between a high, pole mounting, and a ground mounting. The platform on which these 20-kw., 2,200/220-volt transformers are mounted is 4x8 ft.

dump house in which the motor is located. The secondary leads are carried under the conveyor roof from the transformers up to the motor.

As located, the transformers are accessible for inspection and for the renewal of fuses without the aid of pole climbers or a long ladder, and yet they are high enough above the ground so that they do not require a protecting fence.

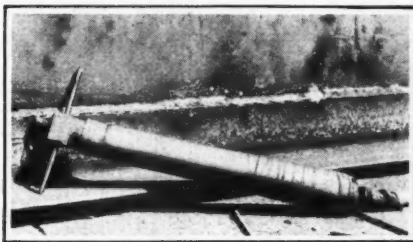
Resistance Terminal Makes Good Electrode Holder

Electric welding does not of necessity require the purchase of special equipment, however, most users prefer to buy factory-made outfits. Mine electricians and mechanics are noted for their resourcefulness and ingenuity in contriving to use what is at hand. An example of this is the electrode holder illustrated in the accompanying photograph.

A 3-in. terminal from a mine locomotive resistance unit forms the "business end" of this holder. The hollow wooden handle is 12 in. long and 1 1/2 in. in diameter at the large end. The flexible cable is not connected directly to the terminal but instead is soldered to a strip of copper which, in turn, is riveted to the terminal. The object of this is to keep the soldered joint away from the heat of the arc.

The ideal electrode holder should be, (1) of light weight, (2) constructed so that the electrode can be conveniently and quickly changed,

(3) not easily damaged by an arc from the holder to the work, (4) made so that it holds the electrode securely and makes good electrical contact to it, (5) rugged, (6) compact, and (7) cheap to build. The holder described here fulfills most of the above requirements, except, possibly, that of quick changing of the electrode. It was observed, however, at the Wayland, Ky., shop of the Elkhorn Coal Corporation, where this holder is used, that the operative seemed to lose comparatively little time in changing electrodes, although he had to use a wrench each time to tighten the setscrew. R. R. Schillenger, electrical engineer, stated that, everything considered, this electrode holder is about as satisfactory as any his company has tried.

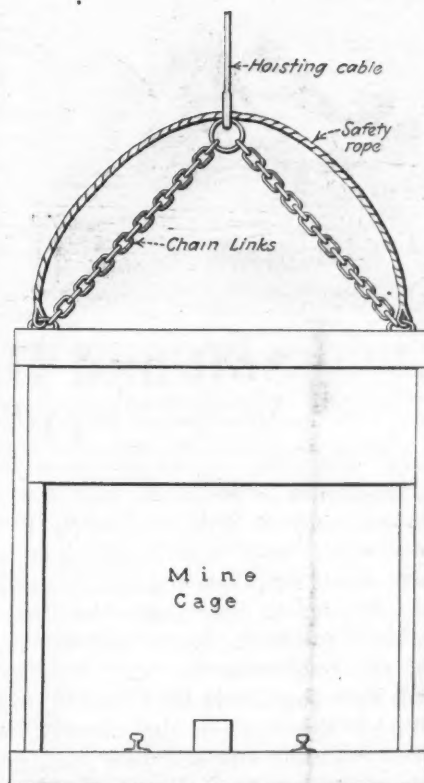


Nothing Complicated About This Home-Made Holder

The setscrew must be tightened with a wrench, but the welding time lost in this way in average mine repair work is negligible. The electrode can be clamped in the middle and used from either end.

Safety Rope Halts Cage

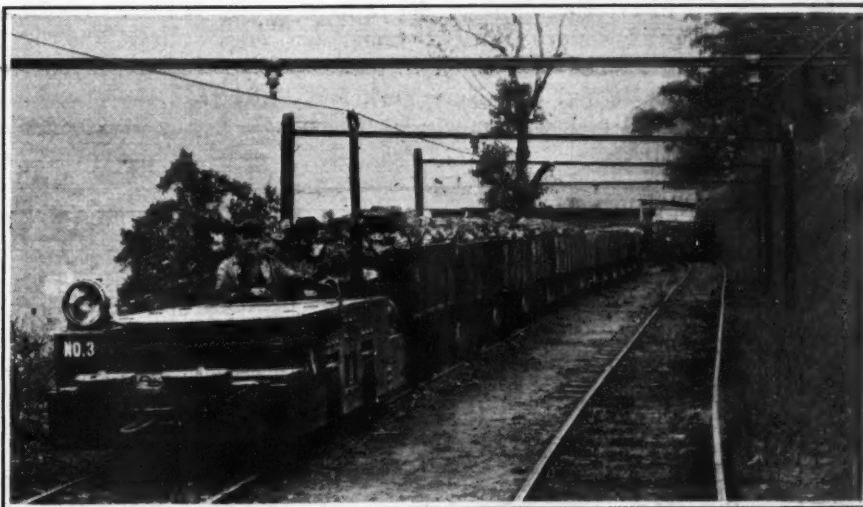
Many different ideas have been developed at the J. K. Dering mine near Eldorado, Ill., to insure safety to the workmen. At this mine an auxiliary cable attachment is put on



Auxiliary Attachment Catches Cage

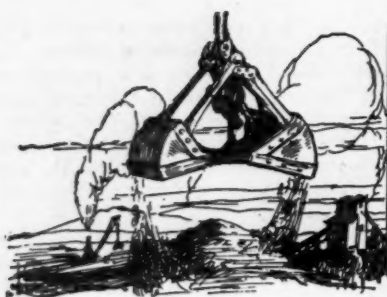
The heavy safety rope is fastened to the cage by separate attachments, thus giving more complete protection against accidents.

the top of the hoisting cage, as shown in the accompanying illustration, to prevent an accident to the workmen or cage if the permanent chains which connect the hoisting cable to the cage should break. The arrangement is such that should one of the chains fail, the safety rope prevents the cage from tipping and binding in the shaft. Periodically the chains are inspected and renewed, thus the liability of an accident is greatly minimized.

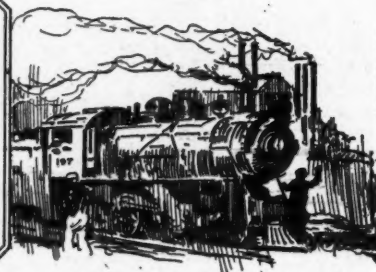


Old Rails Make Permanent Trolley Supports

The illustration shows the overhead trolley construction at Sonny Mine No. 1 of the Georges Creek Coal Mining Co., at Lonaconing, Md. As may be plainly seen, in the absence of pipe, old rails have been used as trolley supports. These are mortised into the posts upon either side of the tramrod and the trolley is hung from them by means of ordinary pipe clamps.



Production And the Market



Soft and Hard Coal Trades Await Effect Of Labor Developments

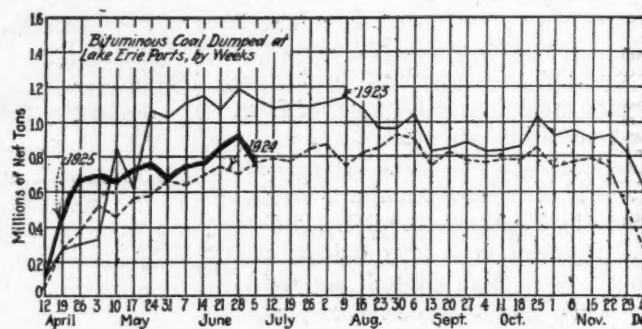
While actual business conditions in the marketing of coal showed little discernible difference during the past week from recent preceding weeks, nevertheless two recent developments are fraught with far-reaching possibilities to the trade—the threat of a nationwide strike by John L. Lewis and the report of coal stocks by the Geological Survey. The industry as a whole will take the Lewis threat calmly, knowing the size of the job the union leader already has on his hands in West Virginia and confident that the government would quickly step in in the event of a dangerous tie-up at the mines. Realization of the extent of the shrinkage in reserve coal stocks, as revealed in this week's report, may be a different story. Whether it will prove to be the needed impetus that the market lacked, the next few weeks will show.

A shipment of western Kentucky strip mine-run that sold in Chicago last week on the basis of 95c. per ton f.o.b. mine gave the Midwest market another bump, shaking the confidence of Illinois and Indiana producers who were trying to maintain prices on 2-in. screenings. Western Kentucky is in poor shape and eastern Kentucky is dissatisfied with prices, a plentiful car supply and many mines running full making coal too plentiful. Business at the head of the lakes is at a standstill. Conditions are somewhat steadier in the Southwest, the situation being unchanged in Colorado and Utah.

Lake buying has been heavier during the last week, and as a result the Cincinnati market has stiffened. A slight pick-up is in evidence in southern Ohio also, but there is no change in eastern Ohio. Demand continues light at Pittsburgh. The depression in New England shows no signs of lifting. At New York and Philadelphia sales have not picked up much, but encouraging signs are not lacking.

Anthracite consumers display nothing but indifference despite the nearness of the wage parley, but it is not unlikely that a change of front will be in evidence when news from the scene of hostilities begins to spread. Stove continues to lead in demand, with egg close up. Chestnut, however, is causing nearly as much difficulty as pea. The steam sizes are quiet.

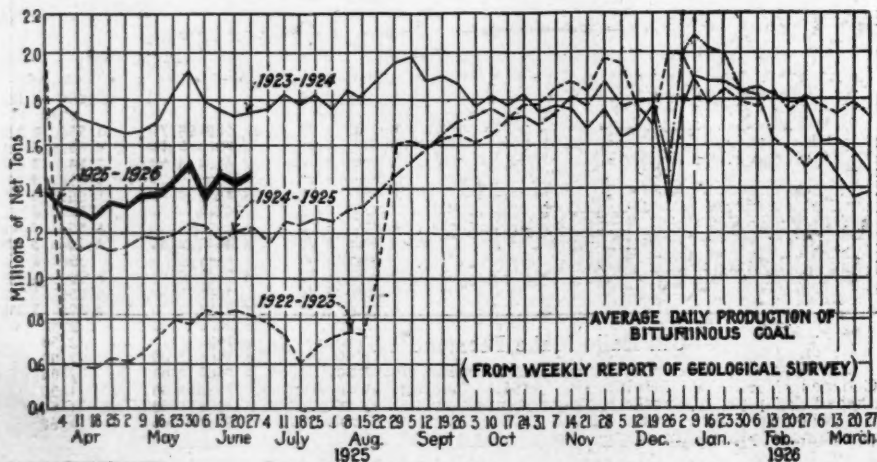
Bituminous coal output in the week ended June 27 is estimated by the Geological Survey at 8,679,000 net



tons, compared with 8,400,000 tons in the previous week, as shown by revised figures. Anthracite production in the week ended June 27 was 1,844,000 net tons, compared with 1,788,000 tons in the preceding week.

Coal Age Index of spot prices of bituminous coal remained stationary during the past week, standing on July 6 at 160, the corresponding price being \$1.94.

Dumpings at Lake Erie ports during the week ended July 5, according to the Ore & Coal Exchange, were: Cargo, 733,042 net tons; steamship fuel, 47,258 tons—a total of 780,300 net tons, compared with 912,945 tons in the preceding week. Hampton Roads dumpings in the week ended July 2 totaled 401,083 net tons, compared with 447,290 tons in the previous week.



Estimates of Production

(Net Tons)

BITUMINOUS

	1924	1925
June 13.....	7,385,000	8,622,000
June 20 (a).....	7,434,000	8,400,000
June 27 (b).....	7,608,000	8,679,000
Daily average.....	1,268,000	1,447,000
Cal. yr. to date..... (c)	229,772,000	231,795,000
Daily av. to date.....	1,523,000	1,533,000

ANTHRACITE

June 13.....	1,823,000	1,870,000
June 20.....	1,823,000	1,788,000
June 27.....	1,918,000	1,844,000
Cal. yr. to date..... (c)	45,145,000	44,435,000

COKE

June 20 (a).....	131,000	129,000
June 27 (b).....	125,000	127,000
Cal. yr. to date..... (c)	6,004,000	5,230,000

(a) Revised since last report. (b) Subject to revision. (c) Minus two days' production to equalize number of days in the two years.

Midwest Trade Drags Bottom

A new low level was reached in the Chicago market last week when a considerable tonnage of strip mine-run from western Kentucky was sold there on the basis of 95c. per ton, f.o.b. mines. There was enough of this coal offered to shake the confidence of the Illinois and Indiana producers who have been attempting to maintain a good price for 2-in. screenings. Some of the Illinois and Indiana operators shaded their prices in order to meet this west Kentucky competition, but the majority held their prices firm, asserting that the 95c. mine-run was distress coal and as such ought not to influence the market.

The demand for industrial coals shows no signs of improvement, as mines in the Middle West appear to be able to produce, even on their present curtailed running time, sufficient coal to take care of local industries.

Again Franklin County, Saline County and Williamson County operators have let the first of the month go by without increasing prices, the \$2.75 level for 6-in. lump, 6x3-in. furnace and 3x2-in. small egg remaining in effect for July. Shippers of smokeless coal from West Virginia have followed this lead and have decided not to raise their prices in July, either. This is equally true of eastern Kentucky producers, who until at least July 15 will maintain their circular of \$2.30 for 4-in. block.

Anthracite operators increased prices 10c. a ton on do-

mestic sizes, effective July 1. They also have served notice that July prices are subject to change without notice. It is believed that the anthracite operators are protecting themselves in case the current strike talk in the hard-coal fields leads to a great increase in demand. The Middle Western public seem indifferent, however, expecting to be able to cover their requirements when they get ready, and if they are unable to get anthracite they feel they can get plenty of smokeless coal or coke.

Conditions are unchanged in southern Illinois. A few cars of domestic sizes are moving out but it has been hard work and some of it has sold as low as \$2.35 on Franklin County lump, egg and nut and some coal from the Harrisburg field. Some coal from Duquoin has gone as low as \$1.75 for egg and No. 1 nut. However, the retail trade is being asked the same old circular, and that is the principal reason why nearly all the dealers in Illinois have gone to eastern and western Kentucky coal. Railroad tonnage is light from the shaft mines, which are working a couple of days a week, with an exceptional mine getting better time. The strip mines seem to be getting good working time, crushing a lot of coal and have some railroad tonnage.

There has been no change in the Duquoin field and there is practically nothing doing in the Mt. Olive district. A little working time in both of these fields is given over to crushing coal for mine contracts although one mine in

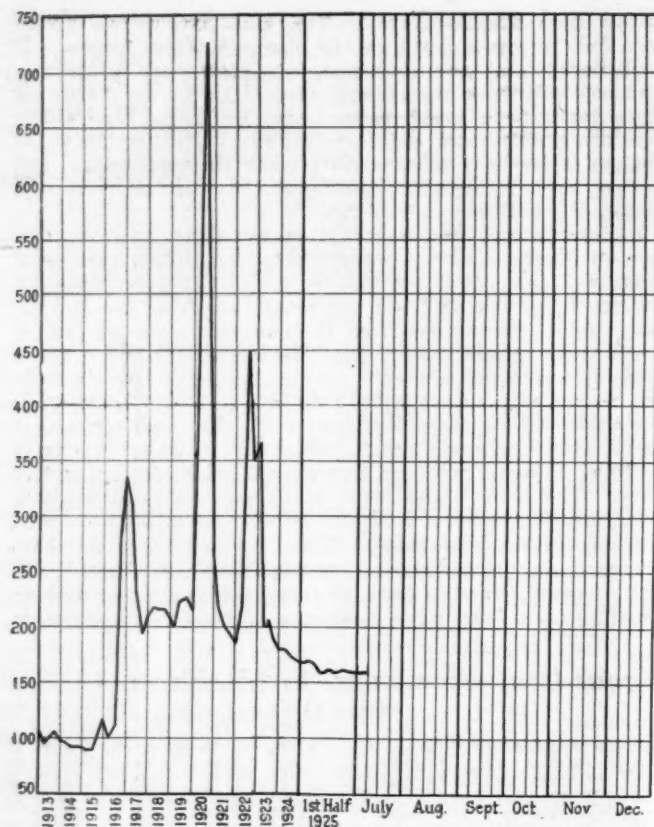
Current Quotations—Spot Prices, Bituminous Coal—Net Tons, F.O.B. Mines

Low-Volatile, Eastern				Midwest			
	Market Quoted	July 7 1924	June 22 1925		Market Quoted	July 7 1924	June 22 1925
Smokeless lump.....	Columbus.....	\$3.85	\$2.85	Franklin, Ill. lump.....	Chicago.....	\$2.75	\$2.60
Smokeless mine run.....	Columbus.....	2.20	1.85	Franklin, Ill. mine run.....	Chicago.....	2.35	2.35
Smokeless screenings.....	Columbus.....	1.30	1.30	Franklin, Ill. screenings.....	Chicago.....	1.70	2.10
Smokeless lump.....	Chicago.....	3.60	3.10	Central Ill. lump.....	Chicago.....	2.35	2.35
Smokeless mine run.....	Chicago.....	1.85	1.95	Central Ill. mine run.....	Chicago.....	2.10	2.10
Smokeless lump.....	Cincinnati.....	3.85	2.85	Central Ill. screenings.....	Chicago.....	1.65	1.75
Smokeless mine run.....	Cincinnati.....	1.80	1.85	Ind. 4th Vein lump.....	Chicago.....	2.60	2.60
Smokeless screenings.....	Cincinnati.....	1.10	1.20	Ind. 4th Vein mine run.....	Chicago.....	2.35	2.35
*Smokeless mine run.....	Boston.....	4.30	4.25	Ind. 4th Vein screenings.....	Chicago.....	1.70	1.85
Clearfield mine run.....	Boston.....	1.90	1.75	Ind. 5th Vein lump.....	Chicago.....	2.35	2.25
Cambria mine run.....	Boston.....	2.35	2.10	Ind. 5th Vein mine run.....	Chicago.....	2.10	1.95
Somerset mine run.....	Boston.....	2.15	1.95	Ind. 5th Vein screenings.....	Chicago.....	1.55	1.50
Pool 1 (Navy Standard).....	New York.....	2.70	2.55	Mt. Olive lump.....	St. Louis.....	2.85	2.50
Pool 1 (Navy Standard).....	Philadelphia.....	2.80	2.60	Mt. Olive mine run.....	St. Louis.....	2.50	2.25
Pool 1 (Navy Standard).....	Baltimore.....	1.85	1.85	Mt. Olive screenings.....	St. Louis.....	2.00	1.75
Pool 9 (Super. Low Vol.).....	New York.....	2.15	2.00	Standard lump.....	St. Louis.....	2.15	2.25
Pool 9 (Super. Low Vol.).....	Philadelphia.....	2.15	2.00	Standard mine run.....	St. Louis.....	1.80	1.80
Pool 9 (Super. Low Vol.).....	Baltimore.....	1.85	1.75	Standard screenings.....	St. Louis.....	1.45	1.70
Pool 10 (H.Gr. Low Vol.).....	New York.....	1.80	1.85	West Ky. block.....	Louisville.....	2.00	1.50
Pool 10 (H.Gr. Low Vol.).....	Philadelphia.....	1.75	1.70	West Ky. mine run.....	Louisville.....	1.60	1.25
Pool 10 (H.Gr. Low Vol.).....	Baltimore.....	1.65	1.60	West Ky. screenings.....	Louisville.....	1.25	1.05
Pool 11 (Low Vol.).....	New York.....	1.60	1.55	West Ky. block.....	Chicago.....	1.95	2.00
Pool 11 (Low Vol.).....	Philadelphia.....	1.45	1.55	West Ky. mine run.....	Chicago.....	1.60	1.35
Pool 11 (Low Vol.).....	Baltimore.....	1.55	1.40				
High-Volatile, Eastern				South and Southwest			
Pool 54-64 (Gas and St.).....	New York.....	1.50	1.50	Big Seam lump.....	Birmingham.....	3.20	2.10
Pool 54-64 (Gas and St.).....	Philadelphia.....	1.50	1.50	Big Seam mine run.....	Birmingham.....	1.80	1.75
Pool 54-64 (Gas and St.).....	Baltimore.....	1.45	1.45	Big Seam (washed).....	Birmingham.....	2.00	1.85
Pittsburgh sc'd gas.....	Pittsburgh.....	2.40	2.40	S. E. Ky. block.....	Chicago.....	2.10	2.25
Pittsburgh gas mine run.....	Pittsburgh.....	2.10	2.15	S. E. Ky. mine run.....	Chicago.....	1.50	1.70
Pittsburgh mine run (St.).....	Pittsburgh.....	1.85	1.95	S. E. Ky. block.....	Louisville.....	2.10	2.25
Pittsburgh slack (Gas).....	Pittsburgh.....	1.20	1.50	S. E. Ky. mine run.....	Louisville.....	1.55	1.55
Kanawha lump.....	Columbus.....	1.85	1.85	S. E. Ky. screenings.....	Louisville.....	.95	1.10
Kanawha mine run.....	Columbus.....	1.40	1.40	S. E. Ky. block.....	Cincinnati.....	2.50	2.40
Kanawha screenings.....	Columbus.....	1.05	1.05	S. E. Ky. mine run.....	Cincinnati.....	1.45	1.55
W. Va. lump.....	Cincinnati.....	2.25	2.30	S. E. Ky. screenings.....	Cincinnati.....	.90	1.10
W. Va. gas mine run.....	Cincinnati.....	1.40	1.50	Kansas lump.....	Kansas City.....	4.50	4.00
W. Va. steam mine run.....	Cincinnati.....	1.40	1.40	Kansas mine run.....	Kansas City.....	3.50	3.00
W. Va. screenings.....	Cincinnati.....	.85	1.15	Kansas screenings.....	Kansas City.....	2.50	2.60
Hocking lump.....	Columbus.....	2.45	2.15				
Hocking mine run.....	Columbus.....	1.70	1.50				
Hocking screenings.....	Columbus.....	1.35	1.30				
Pitts. No. 8 lump.....	Cleveland.....	2.35	2.20				
Pitts. No. 8 mine run.....	Cleveland.....	1.90	1.85				
Pitts. No. 8 screenings.....	Cleveland.....	1.10	1.45				

Current Quotations—Spot Prices, Anthracite—Gross Tons, F.O.B. Mines

		July 7, 1924		June 29, 1925		July 6, 1925†	
Market Quoted	Freight Rates	Independent	Company	Independent	Company	Independent	Company
Broken.....	New York.....	\$2.34	\$8.00@8.95		\$8.10@8.70		\$8.15@8.80
Broken.....	Philadelphia.....	2.39	8.80@8.95		8.60		8.70
Egg.....	New York.....	2.34	\$8.75@9.00	\$8.50@8.75	8.45@8.70	\$8.50@8.75	8.55@8.80
Egg.....	Philadelphia.....	2.39	8.90@9.60	8.70@9.30	8.50@8.70	8.80@9.40	8.60@8.80
Egg.....	Chicago.....	5.06	7.99@8.10	7.86@8.50	7.44@8.18	7.86@8.50	7.54@8.28
Stove.....	New York.....	2.34	9.00@9.25	8.55@9.20	8.95@9.20	8.75@9.25	9.05@9.30
Stove.....	Philadelphia.....	2.39	9.25@9.90	8.95@9.10	8.95@9.10	9.40@9.75	9.05@9.20
Stove.....	Chicago.....	5.06	8.30@8.40	8.24@8.34	7.92@8.13	8.22@8.70	8.02@8.20
Chestnut.....	New York.....	2.34	8.75@9.00	8.55@9.05	8.25@8.50	8.25@8.50	8.55@8.80
Chestnut.....	Philadelphia.....	2.39	8.75@9.00	8.90@8.95	8.70@9.55	8.80@9.65	8.70@8.80
Chestnut.....	Chicago.....	5.06	8.08@8.23	8.18@8.24	7.69@8.00	8.14@8.35	7.79@8.10
Pea.....	New York.....	2.22	4.50@5.50	5.50@6.00	4.75@5.50	4.75@5.50	5.00@5.80
Pea.....	Philadelphia.....	2.14	5.75@6.25	5.75@6.00	5.00@5.75	5.50@5.75	5.00@5.40
Pea.....	Chicago.....	4.79	5.13@5.45	5.36@5.91	4.91@5.36	4.91@5.36	4.69@5.00
Buckwheat No. 1.....	New York.....	2.22	2.00@2.75	3.00@3.15	2.00@2.40	2.00@2.40	2.50
Buckwheat No. 1.....	Philadelphia.....	2.14	2.50@3.00	3.00	2.15@2.75	2.15@2.75	2.50
Rice.....	New York.....	2.22	1.50@2.15	2.00@2.25	1.75@2.00	1.75@2.00	2.00
Rice.....	Philadelphia.....	2.14	2.00@2.25	2.25	1.85@2.00	1.85@2.00	2.00
Barley.....	New York.....	2.22	1.10@1.50	1.50	1.35@1.50	1.35@1.50	1.50
Barley.....	Philadelphia.....	2.14	1.50	1.50	1.40@1.50	1.40@1.50	1.50
Birdseye.....	New York.....	2.22	1.10@1.50	1.60	1.60	1.50@1.65	1.60

* Net tons, f.o.b. mines. † Advances over previous week shown in heavy type; declines in italics.



Coal Age Index of Spot Prices of Bituminous Coal F.O.B. Mines

	July 6	June 29	June 22	1924
Index	160	160	161	164
Weighted averaged price	\$1.94	\$1.94	\$1.95	\$1.99

This diagram shows the relative, not the actual, prices on fourteen coals, representative of nearly 90 per cent of the bituminous output of the United States, weighted first with respect to the proportions each of slack, prepared and run-of-mine normally shipped, and, second, with respect to the tonnage of each normally produced. The average thus obtained was compared with the average for the twelve months ended June, 1914, as 100, after the manner adopted in the report on "Prices of Coal and Coke; 1913-1918," published by the Geological Survey and the War Industries Board.

Jackson County is getting considerable domestic tonnage at circular price. The Standard field continues to sell coal below cost as a rule. Mines are working one and two days a week and railroad tonnage is light. Several mines are crushing for screenings and the price of these have gone down to \$1.50 with no advance in the other sizes.

The St. Louis market is unusually quiet. Very little domestic coal is being handled except apartment-house and school contracts, and the price that this coal is being brought in at is not attractive to the dealers who are trying to make expenses. The most noticeable feature of this storage business thus far is the lack of anthracite orders. Railroad coal and smokeless coal are dropping off and coke is not taking the business expected. Oil burners are reported going in at the rate of fifteen to twenty per day and no effort is made by coal men to counteract this movement. Wagonload steam is unusually quiet and carload is just fair, considering. Country domestic is hard to find and there is very little country steam business. No change is reported in prices.

Much Kentucky Coal Moves at Low Prices

Although Kentucky has been producing close to a million tons of coal a week and moving a lot of fuel, complaint is heard concerning prices in eastern Kentucky, where with adequate car supply and many mines now running full, there is too much coal available for the higher priced operators to advance quotations. All efforts to shove prices above the \$2.25 mark on best 4-in. block have failed. There may be a few orders on specialty coals moving at above that figure, or now and then a "sleeper" may be caught, but there is plenty of block at \$2@2.25, with egg and lump at \$1.75@2.10. Mine-run is firm at \$1.35@1.75.

Eastern Kentucky screenings have been offered to large industrial consumers at as low as 90c. at points south of the Ohio River during periods of short embargoes at Cincinnati when the Baltimore & Ohio R.R. was unable to accept all the lake coal coming through. Such embargoes have been only of short duration, slapped on for probably twenty-four hours to relieve congestion at the Cincinnati terminal.

Western Kentucky continues in poor shape, with domestic prepared offered as low as \$1.10 for some off grades, and markets at \$1.25@1.50 on good coals. Mine-run and screenings are around \$1@1.25, with some screenings available as low as 90c. in small lots.

Northwest Trade at Standstill

Despite dullness of trade more ships came through laden with coal last week than in any one week since the opening of navigation. In all fifty-one cargoes were landed, of which nine were hard coal, and eighteen are reported on the way from lower lake ports, of which three are anthracite.

Trade at the head of the lakes is absolutely at a standstill. Nothing but spot coal which is absolutely necessary for the operation of factories is going out, and this does not begin to keep up with shipments to the docks. The docks are piling up, and serious congestion may result. Buyers are all waiting for a drop in prices, but dock men seem confident that the present levels will continue.

Prices are steady on both hard and soft coal. The usual 10c. a month raise went into effect July 1 on hard coal. This makes egg, \$13; stove, \$13.40; nut, \$13.25; pea remains at \$10.10 and buckwheat at \$6.50. There are big stocks of hard coal here but the dock men hope to get rid of them in the fall. The Northwest is not frightened, however, by any possibility of a hard-coal miners' strike as most householders will use Pocahontas anyway.

Briquet manufacturers are lining up for the season, expecting a large amount of business among former users of hard coal who want briquets instead of soft coal.

In the Twin Cities buyers are more than reluctant to buy coal in advance of needs, and feel little urge to do so, believing that they can get as good a price when they can use the coal, sixty days later, as they can now. Some railroad business has been discussed a little, but otherwise very little has been doing in any direction. Commercially, the general situation is one of awaiting developments. Prices continue as they have been. If crop conditions continue to be as promising for another month as they have been up to this time, the Northwest seems to be in line for a good volume of business this fall. And it will include a material addition to the coal movement. Buying and production have been on a limited scale for a long time, and a little increased buying would start a better volume in manufacturing and jobbing, with an increased need for coal all along the line.

Little can be said about the Milwaukee coal situation during the prevailing summer dullness. Cargoes are arriving steadily and dock managers seem to be looking out for their usual supplies for another winter. Naturally they are disturbed to some extent by the wage scale differences of operators and miners, and naturally also they are hoping that consumers may feel inclined to protect themselves by filling their bins early. Retail prices for anthracite were pushed up 10c. in Milwaukee with the beginning of July. Egg now is sold for \$16.20 spouted and \$16.95 carried in; stove for \$16.60 and \$17.35 respectively; and nut for \$16.45 and \$17.20. The prices of pea and buckwheat were not raised correspondingly. Pocahontas nut now sells for \$10.25 spouted and \$11 carried in.

Southwestern Market Steadier

The movement of a little coal for threshing and school storage has had a steadying effect on the Southwestern market. While there have been no changes in prices, those in effect are firmer than they have been, and, with production reduced to the demand, no surplus is accumulating at the mines. No domestic storage is reported, but it is expected to start late this month or early in August, providing a market which will open up Arkansas mines, virtually all of which are now closed.

In Colorado there has been no improvement in coal conditions. Dealers continue to withhold orders until the rate reductions to the Missouri River territory become effective,

Aug. 4. Mines are operating on an average of about two days a week with an oversupply of labor. The new prices for Dawson and Raton domestic lump and fancy egg are \$4; fancy nut, \$3.75; fancy pea, \$3.25, and base-burner coke, \$6.

The Utah coal business is about normal for this time of year. The chief industrial consumers are the mines and smelters, but the railroads, cement plants and sugar companies are taking a little coal. The domestic business is doubled due to weather conditions. The slack situation continues easy, but, thanks to the storage capacity of the mine-owned yards, lump coal being mined is not the problem it would otherwise be. The price situation is unchanged and there is an abundance of labor.

Cincinnati Market Stiffens

Cincinnati sees far-reaching possibilities in the word that one company that has done much in setting prices in the past ten months will place a price of \$2.25 on its 4-in. lump and \$2 on its egg and 1½-in. screened coal on July 15. This corporation, which operates in some of the finest veins in the Island Creek district of West Virginia, has held consistently to \$2 and has produced heavily during the period alluded to.

Lake buying has been rather heavy within the past week, mostly of mine-run. Screenings, too, have been affected and the price has advanced again to a solid \$1.10@1.15, with some of the first asking as high as \$1.25. Stove and egg continue fairly strong, but domestic lump lags.

The smokeless situation is difficult to gage. Some looked for a July rise because of light domestic and retail buying, but lump is limping along at \$2.75 spot, with some direct selling agents holding to \$3. Stove sizes are weak and most of the nut is going at the straight mine-run price. Mine-run is now firm at \$2 and screenings also have stiffened a bit through the advance of bituminous, with a range of \$1.25@1.35.

The speech of John L. Lewis at Scranton has been seized upon as food for buying talk and retailers and dealers in domestic sizes have been urged to get a move on before the clouds break.

In a retail way there has been little or no change. Home storage now is said to be the lightest in five years. River movement continues good with the stream benefited by rains both on the tributaries and in the upper valleys.

Only a slight change has taken place in the southern Ohio coal trade during the past week. As reserves are getting low some of the larger users are buying in larger quantities. Domestic demand has not increased materially, as dealers have not started to take in tonnage. The market is still somewhat irregular although both producers and distributors believe that a better demand will develop later in July.

Utilities, railroads and public institutions, including schools, are taking a pretty good tonnage of steam sizes. A fairly steady demand from other sources has kept the market fairly clean. The amount of distress coal has been reduced to a large extent and the extremely low quotations heard several months ago are not found at this time.

Buying on the open market is the practice of many large consumers not having contracts. Railroads are still buying on the market in preference to entering into contracts, although a few of the carriers have made agreements for a good tonnage. Nut, pea and slack are rather firm, due largely to the reduced production of lump, and this condition is expected to be maintained for several weeks. West Virginia slack is following the lead of Ohio-mined grades and has strengthened.

Lake trade is rather steady and a part of the tonnage is

coming from Ohio mines. Movement of bottoms has been rather good and reports show a good tonnage landed at the head of the lakes.

Retailers in central Ohio are at sea as to stocking. So far householders have shown little disposition to buy and as a result the dealers are playing a waiting game. Retail prices have stiffened to a certain extent, although some dealers are still cutting in order to clean up their yards.

There has been no change in the eastern Ohio market situation; general demand is showing little life and spot prices are holding at the level of recent weeks. Steam demand is not sufficient to develop into inquiries and producers are keeping well ahead of industrial needs. Operators and jobbers simply describe the situation as being the worst through which they have passed in many years and are unable to point to a single constructive factor likely to change conditions in the near future.

Production at mines in the eastern Ohio No. 8 district during week ended June 27 increased 14,000 tons over that of the preceding week. Total output was 237,000 tons or about 34 per cent of potential capacity. Two additional mines have resumed operations, but one is an industrial mine whose output is wholly taken by a large industrial concern.

Conditions Unchanged at Pittsburgh

At Pittsburgh slack is said to be a trifle easier, but this is denied by some well-posted authorities. There has been a little search for nut coal, which is not so easily found, as its production depends on the vagaries of lump shipments. In general, however, the coal market is unchanged. Demand remains very light, and prices, except occasionally in the case of slack, are changed, having long ago gotten to the irreducible minimum. Operation in the Pittsburgh district continues to be guessed at around 20 per cent of capacity.

The Buffalo bituminous trade continues its recent course though the more active shippers quite often show a pretty fair string of orders, but this is not common enough to be very encouraging. Consumption seems to be pretty good. Quotations continue at \$1.60@1.75 for Fairmont lump, \$1.40@1.50 for mine-run and \$1.25@1.40 for slack; \$2.25@2.50 for Youghiogheny gas lump, \$2@2.25 for Pittsburgh and No. 8 steam lump and \$1.30@1.50 for slack; \$1.75@2 for Allegheny Valley mine-run. Cambria County smokeless retails at \$6 at the curb for domestic use.

Seasonal Lull Deepens New England Calm

The steam coal market in New England continues under the same depression that has been characteristic now for a long period, and the dullness usual in midsummer only accentuates it. Buyers have next to no interest whatever in current offerings and prices keep wavering with the individual situations of the several shippers. Quotations of \$4.10@4.15 per gross ton f.o.b. vessel at Hampton Roads are by no means unheard of, even for highest grade Navy standard, and apparently there are fewer and fewer instances of higher returns. Eastern New England supplies much the greater outlet for what coal is dumped at Norfolk, and Newport News, but besides deliveries on contract there are only occasional sailings for this territory.

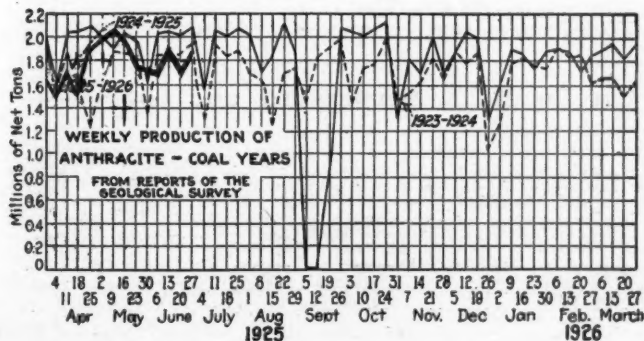
On cars Boston and Providence there is only occasional inquiry. While coal is being held at \$5.25@5.40 sales are still being reported at \$5.10@5.15, although the various factors try not to quote these figures except on 500- or 1,000-ton lots for spot shipment.

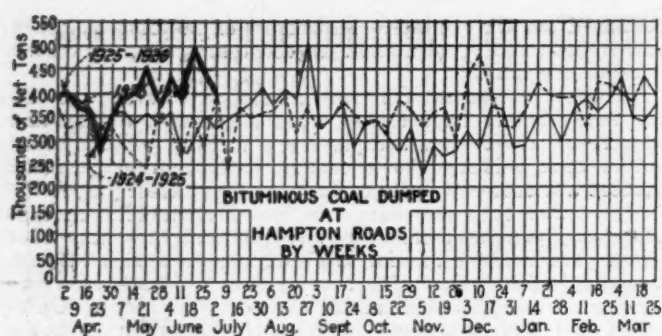
Central Pennsylvania coals in this market are now mentioned scarcely at all. Prices are quoted occasionally, but so large a number of operators have shut down awaiting an adjustment in wages that only a relatively few different coals are available.

Most of the industries here are on part time with only slack business. Practically every consumer of any size is using less coal this year than in 1924 because of the general commercial situation, although this loss is in part made up by the more extended use of bituminous in place of anthracite for domestic purposes.

Encouraging Signs at New York

Judging from complaints heard, no one is buying bituminous coal in the New York market. There are some encouraging signs, however, sales agents saying that business was a trifle more active last week and that, judging from inquiries received, consumers are showing more interest.





Operators of non-union mines say that business has been better and they believe it will gradually increase. Prices, however, fail to show any change from last week and for several previous weeks.

The "spot" contract awards of the U. S. Shipping Board for coaling vessels in this harbor have been an outlet for several thousand tons of coal for local houses, although the prices have been low.

In a general way everything is quiet in the Philadelphia market, yet producers are moving a little more coal. Concerns with contracts seem to be willing to take larger supplies, and this, with railroad business, has been sufficient to create fair activity for certain shippers in this district. Of course, the real difficulty continues to be low prices.

In the gas-coal market slack is still most wanted, and if anything there is a little better supply of it. The price remains not far from that of mine-run.

Nothing new has developed at tide, and outside of bunkering, activity has almost ceased.

At Baltimore the first reflection of the British labor situation comes in a sharp increase in inquiry for American coals for foreign delivery in the past few days and the renewal of at least some shipping activity to foreign ports. The call for home consumption is extremely light and prices remain on the same level at which they have been set for several months past.

Better Outlook at Birmingham

Inquiry for domestic coal at Birmingham is reported from some quarters to be picking up slightly, but opinion in the trade as to any material improvement in spot buying or the making of contracts during this month is divided. Some of the larger producers report the outlook as having improved perceptibly in the past few days with July spot bookings sufficient to take care of their entire output above contract obligations. Others haven't orders in hand as yet to absorb their surplus output entirely, but feel that such business will be taken on from day to day as will enable operations to carry on at least on a parity with the schedules observed in June.

Generally speaking, there is little change in the steam market. Ice plants are consuming about their maximum tonnage at this time and the power companies also are using considerable fuel at their steam operations. Railroads are taking about the same amount of coal as for several weeks past, and cement plants and textile industries are operating full time, using a large amount of fuel. Buying in the open market is for current needs and few new contracts are being taken on.

Quotable mine prices on all grades are the same as a week ago. The mines are operating on a basis to care for business in hand or reasonable anticipations under the market conditions and there is little surplus fuel. Lump and other domestic sizes are not moved as readily as desired in all cases, but there is no serious delay in disposition.

Hard-Coal Trade Neglected

Producers and shippers of anthracite are doing little more than marking time in the New York market. Consumers are indifferent despite the possibility of a suspension of mining at the end of next month.

The larger companies, as was expected, advanced the prices of the domestic coals 10c. per ton on July 1. The relative position of the larger sizes of hard coal did not change last week. Stove continues to head the list in demand, with egg close at its heels. Chestnut seems to be causing nearly as much trouble as pea. Along the line the former is in better demand than in the Metropolitan area.

The smaller coals are quiet, with No. 1 buckwheat in oversupply. Barley is holding its own while rice is in fair demand.

The trade at Philadelphia is on about the same level as last week, although there are prospects of some improvement. Since the miners got together to formulate demands, the public is taking a little more interest. No doubt the coming week should see an increase in retail buyers.

Most operators have been losing some time at the mines, but are in hopes that with a little improvement they will be enabled to go through to Sept. 1 without any more production losses. While most dealers are filled up with coal, news from the miners' meeting enables them to find space for an occasional additional car.

As expected, all operators added 10c. a ton for July to the mine price of egg, stove and nut, with nothing added to pea and the smaller sizes. Steam sizes are draggy, especially buckwheat, and the independents are willing at times to shade 25c. and better on fair sized blocks of this size. Much the same is true of rice, and while barley moves fairly well there is more than a plentiful supply.

Anthracite selling in Baltimore is almost at a standstill. Neither the public nor the dealers are convinced that a hard-coal strike is coming. Should a feeling grow that a strike is inevitable, even one of short duration, there will be a rush of dealers to get through deliveries from the mines, and then the buying public will hustle in an effort to get under cover. Prices remain so far on the same schedule as for June.

Buffalo hard-coal dealers agree that the trade is much duller now than usual in warm weather and they are all at a loss to know why. The public does not appear to be much disturbed at the possibility of a strike and it is doubtful if a single load of coal has been sold on the strength of what may happen at the present wage meeting.

As to coke it does not appear that anybody wants any; Canada was buying, but now it is all Alberta coal, though local shippers do not appear to fear that much. It must be classed along with soft coal at the best and we can sell that much cheaper than Alberta coal goes for, on a \$7 freight rate from the mines.

Lake coal shipments are now pretty nearly all going over a single dock and when the upper lake docks are all full that will have to slow up too. For the week the amount loaded was 59,100 tons, of which 32,800 tons cleared for Duluth and Superior, 10,000 tons for Milwaukee, 6,500 tons for Chicago, 5,500 tons for Fort William, 3,000 tons for the Sault and 1,300 tons for Racine. Rates are unchanged.

Connellsville Coke Market Sluggish

A few additional Connellsville merchant coke ovens have gone out, on account of expiration of contracts July 1, and the whole situation is virtually settled until some important change occurs in blast-furnace operations. The furnaces that will operate, such as normally use purchased Connellsville coke, are covered by contracts for the third quarter or half year, one of these having byproduct coke from Youngstown. It is understood there is more to be had there at \$2.75, Connellsville equivalent, a price it is generally assumed Connellsville operators would not try to meet. Possibly they would shade \$3 a trifle if opportunity presented itself, but there is no inquiry.

So far as known there was no buying for the single month of July and there has been no spot demand from furnaces for some time, which confirms the understanding that all the furnaces to operate are taken care of.

The contract market remains quotable nominally at \$3@ \$3.25. Operators might in future ask more than has been done on contracts, which were chiefly at \$3, because recent selling was to get a backlog only.

Spot foundry coke remains at \$3.75@ \$4.25 and is dull.

Car Loadings, Surplusages and Shortages

	Cars Loaded	
	All Cars	Coal Cars
Week ended June 20, 1925.....	982,600	153,663
Previous week.....	987,196	157,559
Week ended June 21, 1924.....	903,546	140,814
	Surplus Cars	
	All Cars	Coal Cars
June 22, 1925.....	308,825	111,820
June 14, 1925.....	313,494	117,496
June 22, 1924.....	359,644	167,315
Car Shortage		
.....
.....
.....

Foreign Market And Export News

Depression in British Market Hits Steam Coal Trade

The general situation in the British steam coal trade leaves much to be desired, and even the anthracite trade is not so brisk as it was a few weeks ago, the result being that prices are much lower. The existing depression, however, affects the steam side of the industry most, as there is absolutely no life in the market, for the reason that foreign demand is so meager, owing partly to the keen competition from other coal fields and partly to the fact that foreign exchanges are so adverse to business.

The possibility of untoward developments in the labor situation fails to stimulate demand from abroad. It is, therefore, not surprising that there is a lack of loading pressure at most of the South Wales docks and that many collieries are experiencing some difficulty in finding an immediate outlet for their output, notwithstanding the numerous pits that are idle.

There is no improvement in the Northern coal trade, as buyers still hold off. There are inquiries on the market, but they are distributed over a large number of merchants, and though giving the impression that there is a large volume of trade, they really amount to little. Reports from Continental centers do not give much encouragement of a revival of interest for some time to come. Merchants recently returned from business journeys in Germany, France, Belgium and Holland state that they did not find much improvement in the demand for coal. Germany has very large stocks to dispose at low prices.

Production by British mines in the week ended June 20, a cable to *Coal Age* states, totaled 4,465,000 tons, compared with 4,980,000 tons in the preceding week.

Holiday Slump at Hampton Roads

Business at Hampton Roads continued dull last week, particularly with the holiday in sight and the mines shutting down three days. Most mines serving this port were operating only three days a week anyway.

Inquiries were decreasing and for-

eign shipments were falling off materially. The Shipping Board took several 1,000-ton lots as low as \$4.08, the lowest figure quoted for many weeks. Some distress coal was being offered nearly that low. The tone of the market was weak.

French Trade Stationary; Strike Averted

The situation in the French coal market is still extremely trying; consumption has not increased and stocks are practically stationary.

In order to settle the wage controversy the mining companies proposed that instead of revoking the 40 per cent allowance for the high cost of living it be cut to 20 per cent. The men accepted this proposal, and the threatened strike has been averted.

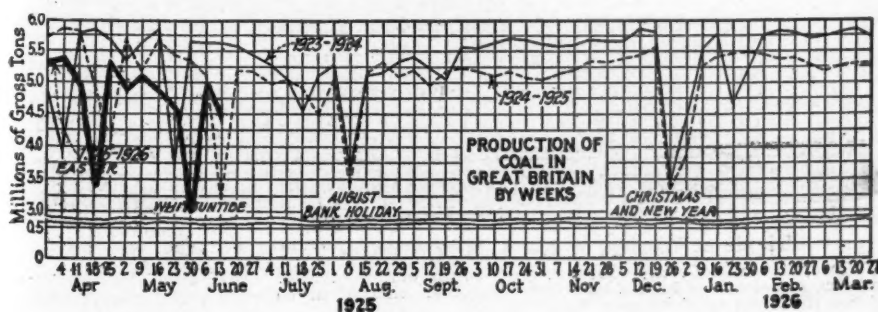
To help the sale of French coals, a proposal to reduce transport tariffs to the west is being considered, but the railway companies, whose condition is far from prosperous, are not inclined to face a cut with equanimity. Import licenses for foreign fuels, particularly German coals, have not been re-established due to opposition by railways and metallurgical plants.

In May the Office des Houillères Sinistrées received from the Ruhr 591,900 tons of indemnity fuels (against 583,500 in April), including 267,500 tons of coal, 292,100 tons of coke and 132,399 tons of lignite briquets, a daily average of slightly more than 19,000 tons. From June 1 to 6 the receipts were 20,500 tons of coal, 53,200 tons of coke and 2,700 tons of lignite briquets.

During the first seventeen days of June the O.R.C.A. received from the Ruhr 147,135 tons of indemnity coke.

U. S. Fuel Imports in May

(In Gross Tons)	1924	1925
Anthracite.....	494	2,972
Bituminous, shale and lignite.....	8,864	139
Bituminous coal and slack.....	6,168	34,770
Imported from:		
United Kingdom.....	800	
Canada.....	6,168	34,909
Japan.....	7,764	
Other countries.....	300	
Coke.....	5,681	9,959



Destination of Fuel Exports from United States in May

(In Gross Tons)	1924	1925
Anthracite.....	271,984	325,356
Bituminous.....	1,273,267	1,356,933
Exported to:		
France.....	58,949	11,551
Italy.....	51,962	93,986
Other Europe.....	1,000	
Canada.....	910,563	1,001,799
Panama.....	38,611	19,235
Mexico.....	6,451	9,447
British West Indies.....	5,165	14,664
Cuba.....	29,884	49,313
Other West Indies.....	13,929	18,079
Argentina.....	22,788	19,430
Brazil.....	122,059	78,926
Chile.....	9,300	
Egypt.....		2,674
French Africa.....	7,604	13,299
Other countries.....	25,002	24,328
Coke.....	40,295	58,637

Export Clearances, Week Ended July 4, 1925

FROM HAMPTON ROADS	
For Brazil:	Tons
Br. Str. Eastgate, for Santos.....	5,733
Br. Str. Goathland, for Rio de Janeiro.....	5,433
Amer. Str. Circinus, for Rio de Janeiro.....	7,175
Br. Str. Carlton, for Rio de Janeiro.....	6,881
Br. Str. Tapti, for Rio de Janeiro.....	6,097
Br. Str. Antav, for Rio de Janeiro.....	9,103
For Newfoundland:	
Nor. Str. Frithjof, for Botwoodville.....	3,625
For Canada:	
Nor. Str. Utsire, for Gaspe.....	2,079
For French West Indies:	
Dan. Str. Nordlys, for Fort de France.....	5,969
For Canal Zone:	
Amer. Str. Leborne, for Cristobal.....	9,785
FROM BALTIMORE	
For Port Rico:	
Am. Str. Gov. John Lind, for San Juan.....	835

Hampton Roads Pier Situation

N. & W. Piers, Lamberts Pt.:	June 25	July 2
Cars on hand.....	1,388	1,839
Tons on hand.....	83,752	117,458
Tons dumped for week.....	126,653	111,958
Tonnage waiting.....	15,000	20,000
Virginian Piers, Sewalls Pt.:		
Cars on hand.....	882	908
Tons on hand.....	52,250	67,500
Tons dumped for week.....	94,666	85,150
Tonnage waiting.....	4,728	5,160
C. & O. Piers, Newport News:		
Cars on hand.....	3,187	4,648
Tons on hand.....	163,325	186,725
Tons dumped for week.....	178,047	161,002
Tonnage waiting.....	7,370	6,990

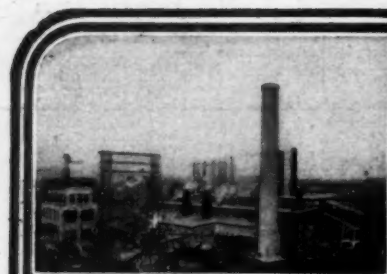
Pier and Bunker Prices, Gross Tons

PIERS		
	June 27	July 3
Pool 1, New York...	\$5.40@55.75	\$5.40@55.70
Pool 9, New York...	4.75@5.00	4.75@5.00
Pool 10, New York...	4.50@4.60	4.50@4.60
Pool 11, New York...	4.25@4.50	4.25@4.50
Pool 9, Philadelphia...	4.65@4.90	4.65@4.90
Pool 10, Philadelphia...	4.35@4.55	4.35@4.55
Pool 11, Philadelphia...	4.25@4.30	4.25@4.30
Pool 1, Hamp. Roads...	4.25	4.20
Pool 2, Hamp. Roads...	4.10	4.08
Pools 5-6-7, Hamp. Rds.	4.00	4.00
BUNKERS		
Pool 1, New York...	\$5.65@56.03	\$5.65@55.95
Pool 9, New York...	5.00@5.25	5.00@5.25
Pool 10, New York...	4.75@4.85	4.75@4.85
Pool 11, New York...	4.50@4.75	4.50@4.75
Pool 9, Philadelphia...	4.80@5.05	4.80@5.05
Pool 10, Philadelphia...	4.60@4.80	4.60@4.80
Pool 11, Philadelphia...	4.45@4.65	4.45@4.65
Pool 1, Hamp. Roads...	4.30	4.30
Pool 2, Hamp. Roads...	4.20	4.15
Pools 5-6-7, Hamp. Rds.	4.10	4.10

Current Quotations British Coal f.o.b. Port, Gross Tons

Quotations by Cable to <i>Coal Age</i>		
Cardiff:	June 27	July 4†
Admiralty, large.....	25s.6d.@26s.	24s.6d.@26s.
Steam smalls.....	15s.	15s.6d.
Newcastle:		
Best steams.....	16s.9d.	17s.@17s.6d.
Best gas.....	18s.@18s.6d.	18s.6d.
Best bunkers.....	16s.6d.	15s.@16s.3d.

† Advances over previous week shown in heavy type; decline in *italics*.



News Items From Field and Trade



ALABAMA

Statistics for 1924 just completed by Chief Mine Inspector C. H. Nesbitt show that coal output for the year in Alabama aggregated 19,615,931 net tons as compared with 20,919,303 for 1923, which was the record production for this field. A total of 4,620,282 tons of coke was produced, as against 4,689,641 for the previous year. Of the coke production, 4,455,990 tons, or 96.4 per cent, was made in byproduct ovens. There were 77 fatal accidents during 1924, or one for every 361 employees, and one life was lost for every 254,752 tons of coal mined. This field worked 177 days and there was an average output of 705 tons for each employee in the industry. Statistics show that 16,024 miners were employed, 7,076 inside daymen and 4,729 outside daymen, or a total of 27,829. Of the total output of coal 12,587,605 tons was washed, or 64.2 per cent. From present indications production for 1925 will show a material decrease as compared with 1924.

COLORADO

Three miners were killed and two other men were injured June 19 as the result of an explosion in the Gordon mine, six miles northwest of Walsenburg. Lack of proper ventilation was held responsible for the explosion in the verdict returned last week by a coroner's jury under the direction of Coroner Dave Murphy. Blame for the fatal accident was placed upon officials of the mine, but was not directed at any particular official, and there were no definite charges to indicate that criminal prosecution would result.

ILLINOIS

Representatives from the mining and selling organizations of the Bell & Zoller Coal Co. recently organized an automobile caravan which made a week's tour of Missouri, Illinois, Iowa, Wisconsin and Minnesota cities boosting Zeigler coal as well as the city itself.

Donk Bros. Coal & Coke Co., East St. Louis, has increased its directors from five to nine.

Chester A. Harris, who until recently was associated with the Southern Gem Coal Corporation, is now with the Forsythe Coal Co., with headquarters in Chicago.

The Forsythe Coal Co., after months of intensive work, expects to start stripping operations on its properties west of Ward station, on the Illinois

Central R.R., early in July. The company is at present employing about 35 men. The plans call for the stripping of a 200-acre tract first, after which other large tracts held under lease by the company will be mined by the same method.

KANSAS

The Home Riverside Coal Co., operating two mines at Leavenworth, notified its 350 employees June 30 that they must revert to the 1917 wage scale or close down. No action was taken by the miners pending discussion of the situation with district officials.

The executive board of District 14, United Mine Workers, voted June 23 to submit to a vote of the district a proposal to increase from 4 per cent to 6 per cent the tax levy on employed miners for the relief of the unemployed in the district.

The Doubleday Coal Co. mine near Gross, at which United Mine Workers demonstrations have been frequent in recent months, and which has been idle several weeks as a result of the activities of the union to prevent it operating open shop, resumed work July 1, under the 1924 contract. The contract was signed June 29. It is between union officials and W. H. Barrett. Mr. Barrett, for some time general superintendent for the Doubleday company, is understood to have a lease arrangement with the owners. One hundred and forty men are employed at the mine.

KENTUCKY

The Letcher Coal Mining Co., Whitesburg, which has been in receivership for some months past, may soon start operations under the receivers, it is reported.

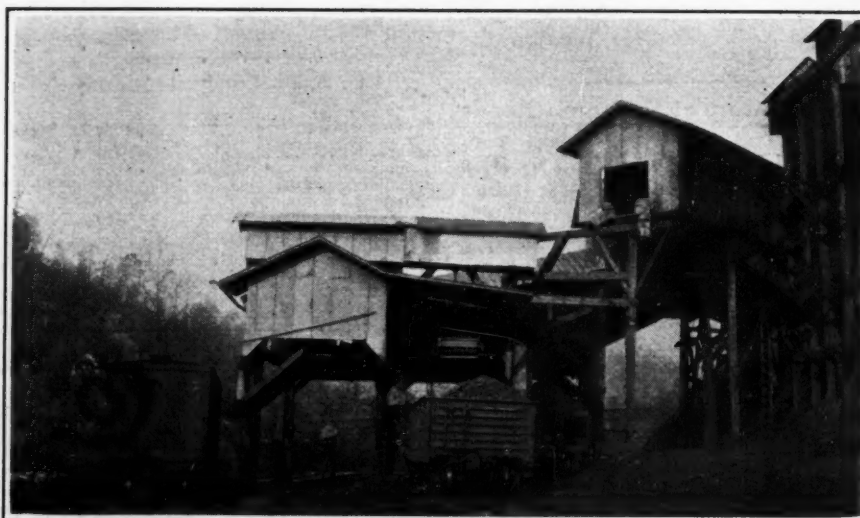
The Kentucky & West Virginia Power Co., furnishing power to a number of mines in eastern Kentucky, reports that power demand from coal companies is the largest in its history. The company is building a new high-tension line from Kona to Jenkins, to furnish auxiliary service to the Consolidation Coal Co.

MICHIGAN

The reorganization of the old Central Coal Mining Co., Bay City, into the Crescent Coal Co. on a scale to produce 250 tons of bituminous coal daily for local distribution only was announced recently by Charles McNair, one of those interested in the project. A crew of workmen is now engaged at the mine, which is located in the Salzburg district, in pumping the water from the shaft and entries.

MINNESOTA

Henry Ford has renewed the lease on his dock property at Duluth at the rate of \$70,000 a year. He owns all the bonds on the dock at present and has started foreclosure proceedings. This, however, will take about a year, and the dock would not become his until next autumn.



Tipple at Worley, or No. 4, Mine, Stearns Coal & Lumber Co.

Worley is in McCreary County, just south of Yamacraw. This plant has shaking screens, two loading booms and car retarders. Sharp curves seem to be characteristic of the Kentucky & Tennessee Ry.

It is said that if he gains title to the dock he will start improvements immediately.

OHIO

The New York Coal Co., of Columbus, which has been operating a washer in the Nelsonville district, has been compelled to reduce operations at the plant because of an order of the United Mine Workers that co-operative mines must not operate unless the miners can show that they are making union wages. The washer has been operated to a certain extent on product furnished by co-operative mines but a portion of this supply is now lacking.

Walter Conradi, who for a long time has been connected with the Logan County Coal Corporation in Cincinnati, has joined the force of the American Coal & Export Co., which has opened offices in the new Atlas Bank Building there.

The Pittsburgh Coal Co. took immediate steps following the burning of the power house at Mine No. 76, at Thomas, to replace the plant and expects to have it in operation within two weeks. The boiler as well as other power machinery was destroyed, putting the mine out of commission. The men employed at the mine were immediately transferred to Syracuse mine of the same company, only a short distance away, and continued production. The output of the Pittsburgh Coal Co. mines in the Pomeroy field is now more than 1,000 tons daily.

Quite a few of the smaller co-operative mines in the Nelsonville district of the Hocking Valley have been closed down recently as a result of the recent speech of John L. Lewis, president of the United Mine Workers. Following the speech the state officials of the miners' union have promulgated an order that all miners working in co-operative mines if not making the regular union wages must cease operations or be expelled from the union. This has reduced the output in the southern Ohio field materially, as about two dozen co-operative mines, employing from 5 to 25 men, were in operation.

PENNSYLVANIA

During the last week of June the Stineman Coal & Coke Co. and the Stineman Coal Mining Co., having extensive mining operations at South Fork, Cambria County, posted notices that beginning July 1 the rate of wages paid at Stineman Nos. 1, 2 and 4 mines would be reduced 20 per cent, all other working conditions to remain the same. With the appearance of July 1 the mines were closed down, the miners refusing to accept the wage reduction. The Stineman normally employs around 900 men and 500 were at work when the mines closed. South Fork is strongly union, having the largest local union in the United States, and included in its membership is Richard Gilbert, secretary-treasurer of the United Mine Workers of District No. 2.

At a meeting of the Board of Direc-



© Harris & Ewing

Morton L. Gould

This is Mr. Gould's latest picture. As the one printed at the time of his election to the presidency of the National Coal Association was of the vintage of 1905, he was persuaded to face a photographer again after two decades. Mr. Gould is a native of Indiana, having been born in Terre Haute. He was educated at Indiana University. He did not enter the coal business at once but engaged in a merchandise brokerage business in Minneapolis and St. Paul and later in Omaha. For a time before becoming affiliated with the coal industry he was connected with a firm in Chicago doing a lumber and tie business. In 1895 Mr. Gould went to the Danville district in Illinois to take a clerkship in the office of a coal company. Five years later he returned to Indiana and became a producer on his own account.

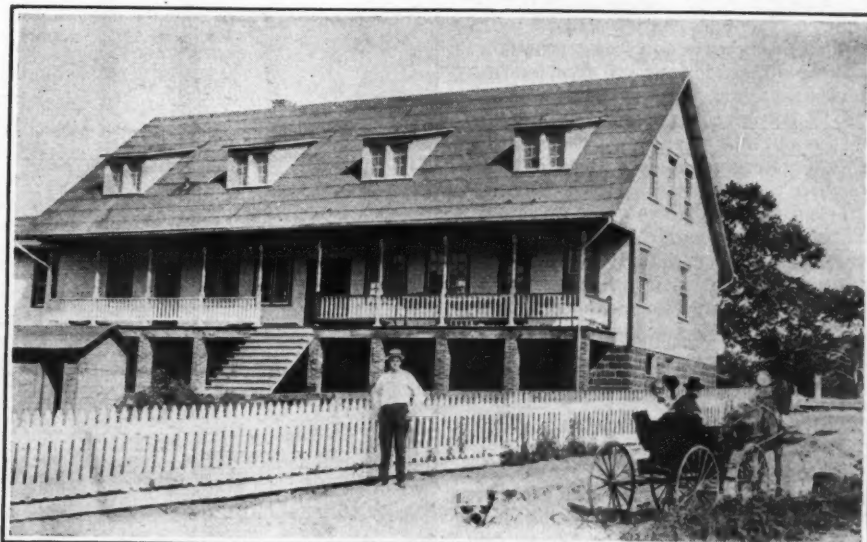
tors of the Empire Coal Mining Co. held June 27, the following changes in personnel were made, due to the recent death of William A. Webb, formerly president of the company: G. Webb Shillingford, of Clearfield, formerly treasurer and general manager of the company, was elected president and general manager. He also is vice-president of the Central Pennsylvania Coal Producers' Association and a director of the Empire Coal Mining Co., Pioneer Coal Co., Clearfield Trust Co. and the Pennsylvania Bituminous Casualty Co.

E. J. Hauber, Philadelphia, formerly assistant secretary and assistant treasurer, is elected secretary and treasurer of the company. He formerly was connected with the Pennsylvania Coal & Coke Corporation, is a director of the Empire Coal Mining Co. and the Pioneer Coal Co. Charles Leslie Chapman, formerly chief engineer of the company, was promoted to general superintendent in charge of all operations of the company. L. Banks Smith, formerly purchasing agent, will assume the duties of assistant secretary and assistant treasurer in addition to his duties as purchasing agent.

Governor Gifford Pinchot has announced that he has continued the commissions of the following mine inspectors: Bituminous—John F. Bell, Dravosburg; C. P. Byrne, Charleroi; P. J. Callaghan, Bridgeville; F. W. Cunningham, Somerset; Nicholas Evans, Johnstown; Edward E. Girod, Mazon-town; W. H. Howarth, Bridgeville; William Langan, DuBois; Thomas S. Lowther, Indiana; Alexander McCanch, Monongahela; Thomas A. Mather, Tyrone; John I. Pratt, Pittsburgh; C. B. Ross, Latrobe; Thomas D. Williams, Johnstown, and David Young, Freeport. Anthracite—P. J. Moore, Carbondale; L. M. Evans, Scranton; D. T. Williams, Scranton; Augustus McDade, Taylor; E. C. Curtis, Kingston; John B. Corgan, Kingston; T. J. Williams, Kingston; D. T. Davis, Wilkes-Barre; Frank Kettle, Nanticoke; D. J. Roderick, Hazleton; J. J. Stickler, Hazleton; M. J. Brennan, Pottsville; P. C. Fenton, Mahanoy City; William Reid, Centralia; B. I. Evans, Mount Carmel; P. J. Friel, Shamokin, and Charles J. Price, Lykens.

UTAH

Among those taken into custody on June 22 for participation in the lynching of a negro in Carbon County were E. E. Jones, superintendent of the Utah Fuel Co., Castlegate; Joseph Parmley, chief clerk of the company; L. T. Davis, the store manager, a night watchman, and another employee of the company. They are being held for murder. The



Courtesy Bertha-Consumers Co.

Boarding House at Eureka Mine

Many of the unmarried employees make their home here. In addition to providing the usual necessities, food and lodging, this building contains a poolroom and barber shop.

trouble arose when a negro miner murdered the Castlegate Marshal.

Herbert Z. Lund and others received a lease to 1,578 acres of Utah coal land on June 23. This lease with certain patents granted on account of work done on the old law, makes one of the largest coal estates in Utah. According to the terms of the lease, \$100,000 must be spent on development work during the first three years, and in the fourth year the production of coal must reach 75,000 tons. The government royalty is 10c. a ton. Two other smaller leases were granted to other applicants at the same time. Joseph F. Livingston and George W. Ivory were granted a lease of 276.9 acres on the terms requiring expenditure of \$10,000 with a minimum production after three years of 8,000 tons annually. Moses Paggi was granted a lease at Coalville of 200 acres. This land is part of a school section.

Judge Tilman D. Johnson has dismissed the suit brought against the Independent Coal & Coke Co. by a group of the Illinois stockholders on the ground of lack of jurisdiction. Hearings will commence at an early date in the case against John H. Tonkin as operator and manager of the company. The stockholders in question desire to prevent exercise of an option held by Tonkin on the property, which was alleged to have been granted to him without the consent of the plaintiffs, the minority stockholders. This company is incorporated under the laws of Wyoming, though its principal place of business and its property are in Utah. Judge Johnson, who presides over the local U. S. District Court, held that the case should have been tried in Wyoming. It is expected that an appeal will be taken to the Supreme Court of the United States.

What is said to be the largest and best coal tipple at any mining camp west of the Mississippi River, has just been completed by the Spring Canyon Coal Co. at its property at Storrs. The big structure cost \$200,000 and has a maximum capacity of 4,000 tons per eight-hour day. The new tipple has five loading tracks. An extension type Manierre box-car loader enables the loading of box cars on three tracks at the same time. There are five loading booms which are said to be the latest word in tipple construction. There is also a complete plant for rescreening the small sizes of coal, and in connection with this, there is a "spiralizing" plant for taking the impurities out of the rescreened coal. Three hundred twenty-five tons of steel, exclusive of machinery, was used in the tipple. The camp of Storrs is henceforth to be known as "Spring Canyon."

WASHINGTON

All the coal mines in western Washington have been invited to join in the annual contest of the Western Washington First-Aid and Mine-Rescue Association, to be held at Black Diamond July 25. A set of problems and a list of prizes are being prepared by John G. Schoning, of the U. S. Bureau of Mines; W. R. Reese, state mine inspector, and Martin Flyzik, director

of safety. Teams will compete for the silver cups won last year at Coronado by Bellingham, Newcastle and Burnett. The rescue association has elected D. C. Botting, manager of mines for the Pacific Coast Coal Co., president, and H. E. Harvey, Carbonado, secretary.

WISCONSIN

The Wisconsin Great Lakes Coal & Dock Co. will install a traveling crane at a cost of \$100,000 on its property at Twentieth Avenue and Canal Street, Milwaukee. There is now one crane at the docks, but it was announced that it was not capable of handling the business now coming in and anticipated. When both bridges are in operation the total unloading capacity will be 1,200 tons an hour.

WEST VIRGINIA

J. D. Rhodes has been promoted from the position of mining engineer to that of general superintendent of the Standard Island Creek Coal Co.'s mines at Taplin, Logan County.

Twenty-one students are enrolled in the short course in coal mining engineering at West Virginia University, Morgantown, this summer. Due to the depression in the industry the attendance has dropped.

The girls' first-aid team of the Barrackville mine of the Bethlehem Mines Corporation won first place at the third annual inter-mines first-aid meet of the Bethlehem Mines Corporation in Harrisburg, Pa., June 27. The Barrackville mine-rescue team was third and the men's first-aid fourth. The girls' first-aid team of the Preston Division,

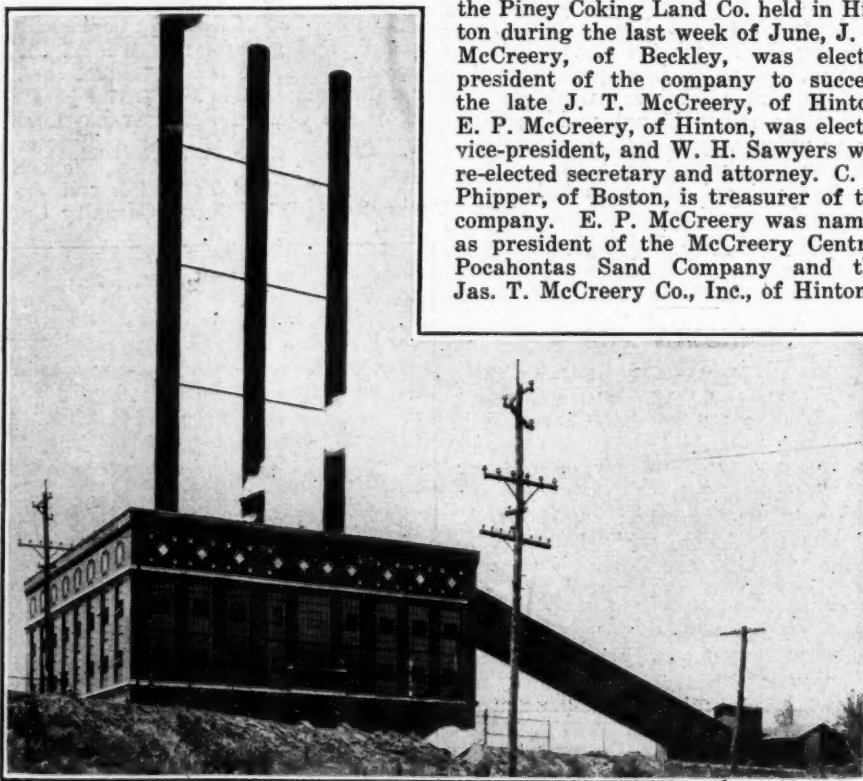
with headquarters at Reedsville, was second.

The Paint Creek mines of the M. A. Hanna Co. as well as those at Boomer, W. Va., reopened the week of June 22 after inactivity for a period of over a year. These were closed when the Kanawha operators were refused a lower scale than the Jacksonville agreement and kept closed until all chance of a change of front on the part of the unionists was dissembled. They are now being operated on the open-shop plan.

Frank C. Shriver, of Morgantown, is the new president of the Chaplin Collieries Co., having been elected to the office at a meeting of the stockholders of the company held on June 27, to succeed J. L. Keener. Other officers elected at the same time include H. S. Hirshberger, of Pittsburgh, vice-president; P. A. Beaumont, of Morgantown, treasurer; J. S. Stewart, of Morgantown, secretary. The above officers together with the following now constitute the board of directors: Frank Orr, Leopold Sigwart, B. M. Chaplin, August Boehler and E. H. Stoner, the latter of Pittsburgh.

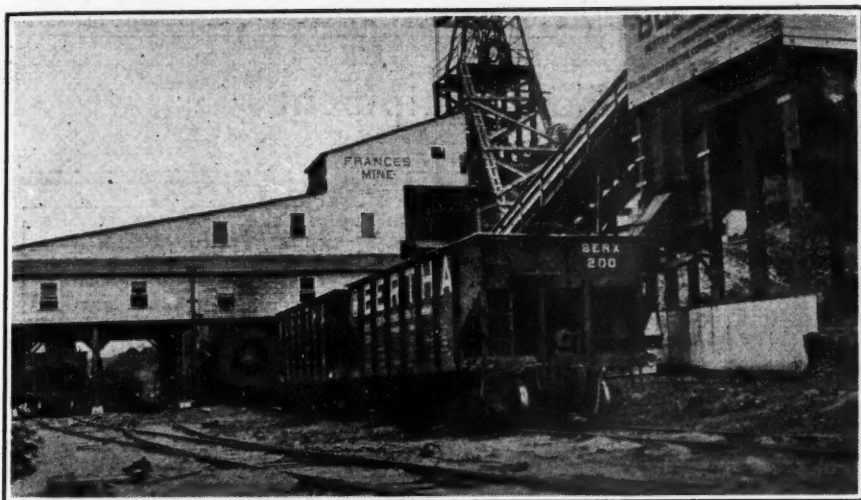
C. O. Strieby, of Elkins, attorney and trustee for the Deal Coal Co., sold the property of that company at court sale at Buckhannon on June 27. The property was sold to Ezra and Daniel Deal, of Cumberland, Md., principal creditors of the company, for \$6,000. The purchase covers 143 acres of coal land about two miles from the city of Buckhannon. The mine has not been in operation for several years but the chances are that it will be leased as a result of the sale.

At a meeting of the stockholders of the Piney Coking Land Co. held in Hinton during the last week of June, J. E. McCreery, of Beckley, was elected president of the company to succeed the late J. T. McCreery, of Hinton. E. P. McCreery, of Hinton, was elected vice-president, and W. H. Sawyers was re-elected secretary and attorney. C. E. Phipper, of Boston, is treasurer of the company. E. P. McCreery was named as president of the McCreery Central Pocahontas Sand Company and the Jas. T. McCreery Co., Inc., of Hinton.



West Kentucky Coal Co. Power Plant

This plant, located at Earlington, Ky., is now tied in with the Kentucky Utilities Co. In January, 1925, this plant generated 1,300,000 kw.-hr., of which about 1,000,000 was sold to the power company.



Tippie at Frances Mine

Equipped to screen 350 tons of coal hourly, this tippie was in full operation, completely equipped, within three months from the start of the work of construction. The Frances operation is located at Franko, Marshall County, W. Va., about eight miles below Moundsville, on the Ohio River. The property consists of 1,671 acres underlain with the Pittsburgh seam.

The property of the Sewell Valley Coal Co., at Beurytown or Secoma, has been sold to Donald Reinhold for a consideration of \$150,000. The transfer covers 1,804 acres of coal land and all the mining property and equipment. A deed of trust for \$150,000 on the same property has been given by the West Virginia Pocahontas Colliery Co., to the Huntington Banking & Trust Co., to cover an issue of bonds.

In giving figures covering fatal accidents in the mines of West Virginia during the month of May, the West Virginia Department of Mines has also given a list of the companies in West Virginia which are using rock dust or are preparing to use it. The list includes the Byrne Gas Coal Co., of Scottsdale; Bethlehem Mines Corporation, Barrackville; Bethlehem Mines Corporation, Fairmont; Youngstown Sheet & Tube Co., Dehue; Island Creek Coal Co., Holden; Boone County Coal Corporation, Sharples; Boone County Coal Corporation, Blair; Raleigh-Wyoming Coal Co., Glen Rogers.

Cletus Harold Jenkins, vice-president of the Hutchinson Coal Co., Fairmont, has been named as a vice-president of the West Virginia Coal & Coke Co.

According to W. J. Harahan, president of the Chesapeake & Ohio R.R., the gross revenue of that road for May was \$9,500,000, compared with \$8,678,000 for May, 1924. "The main reason for this is that we handle non-union coal exclusively," Mr. Harahan said. "Due to the shutdown of union mines, the non-union mines are producing at a high rate. Seventy-seven per cent of our traffic is in coal. There is no indication of any interruption of work by non-union miners, and our coal movement will probably continue heavy throughout the year."

WASHINGTON, D. C.

The Federal Trade Commission dismissed its complaint against the Boehmer Coal Co., of St. Louis, Mo., and the Victory Coal & Mining Co., of Duquoin, Ill. A stipulation as to the

facts was entered into between the commission and the respondents. The Victory Coal & Mining Co. produces coal from its mine in the state of Illinois, which is marketed by the Boehmer Coal Co. The complaint alleged that respondent's use of the word "Victory Coal" misled the public to believe that their product was produced by a competing company.

CANADA

Fire which broke out at 11 p.m., June 28, destroyed the buildings and other structures, except the company's offices, at the bankhead of the British Empire Steel Corporation's No. 11 colliery at Caledonia, N. S., where the miners are on strike. The origin of the fire is unknown. Further depredations, including incendiarism, looting and assaults, were reported on July 3.

As the result of a conference held in Toronto on June 26 between Sir Henry Thornton, president of the Canada National Rys., and representatives of the Ontario Government, the City of Toronto, the Board of Trade and the Canadian Manufacturers' Association, Sir Henry has reconsidered his refusal to carry out the agreement entered into for the shipment of Alberta coal to Ontario at a rate of \$7 per ton. The experimental shipment of 25,000 tons of coal at that rate will be undertaken as soon as possible. Accurate data will be kept of each item entering into the cost of the eastward haul as a basis for future calculations to fix a permanent rate. Any cost to the railway over and above the \$7 freight charge will be met by the federal government, which has made an appropriation of \$25,000 for that purpose.

With the recent vote by the Coalhurst (Alta.) miners indorsing the new wage agreement, in line with that adopted by the Galt miners, the whole Lethbridge domestic coal field is now working under a new wage schedule.

There was a slight decline in Canadian coke production during May the

output amounting to 130,068 tons, produced from 199,235 tons of coal. More imported coal was used than in any previous month this year, owing to the difficulty of obtaining Canadian coal for the use of coke ovens in Eastern Canada. Foreign coal charged to coke ovens totaled 154,754 tons, while the use of domestic coal declined to 44,481 tons, as compared with 75,873 tons used in April. Imports of coke rose from 35,080 tons to 45,954 tons. As exports of coke increased only from 4,047 tons in April to 4,968 tons in May, the apparent consumption of coke in Canada was 174,054 tons, as compared with 162,517 tons available for use in April.

It is announced from Toronto that the Crows Nest Pass Coal Co., with the object of utilizing its coke, may make an effort to get into the iron and steel business. A dividend of 3 per cent has been declared by the company payable to shareholders of record May 12. Latest advices from the collieries of the company are to the effect that the company has been steadily working into a more favorable position. A daily output of 3,000 tons of coal has been maintained recently since the settlement of the labor difficulties and shipments have been practically uninterrupted since the resumption of operation.

Traffic

Roads Present New Schedule In Indiana Rate Fight

Another step in the controversy to adjust Indiana coal freight rates was taken June 29 when railroad representatives and coal carriers in the state presented a proposed new schedule of rates before attorneys and consumers and receivers of coal in the state. The purpose of the meeting was an attempt to make a compromise between the shippers and carriers in the coal-rate fight.

In presenting the new schedule the carriers will attempt to gain an increase on the rates now in effect on short hauls, which are those under fifty miles. It is not thought any decision will be reached without several meetings as the Evansville Chamber of Commerce, the Indiana State Chamber of Commerce, and coal users in Vincennes, Brazil and Terre Haute, and coal operators in those cities have organized to fight the adoption of such a schedule.

The present rates went into effect in August of last year after several hearings before the Indiana Public Service Commission. Since then a series of legal proceedings have been under way over the rate situation. Many of the larger coal consumers of Indiana say that if these proposed increases are put into effect it will mean they can buy coal cheaper from Kentucky, Illinois and West Virginia than from Indiana fields. If, after a series of conferences, no agreement is reached, the decision in the case will be given by the Interstate Commerce Commission, which several months ago recommended that the carriers and consumers attempt to settle the controversy.

Recent Patents

Device for Firing Explosives by Electricity; 1,532,125. Alexander Djidics, Tamaqua, Pa., assignor to the Atlas Powder Co., Wilmington, Del. April 7, 1925. Filed Nov. 21, 1924; serial No. 751,281.

Self-Contained Breathing Apparatus; 1,532,654. Alexander B. Dräger, Lubeck, Germany. April 7, 1925. Filed June 9, 1921; serial No. 476,287.

Automatic Release for Tramway Buckets; 1,532,812. Frederick W. Grice, St. Louis, Mo., assignor to Broderick & Bascom Rope Co., St. Louis, Mo. April 7, 1925. Filed Feb. 8, 1924; serial No. 691,512.

Coal Testing; 1,532,826. Rudolf Lessing, London, England. April 7, 1925. Filed Sept. 12, 1921; serial No. 500,180.

Mining-Car Coupling; 1,532,887. Edgar A. Cunningham and Harry Homad, Malory, W. Va. April 7, 1925. Filed June 12, 1923; serial No. 644,879.

Breathing Bag for Self-Contained Breathing Apparatus; 1,533,172. Alexander B. Dräger, Lubeck, Germany. April 14, 1925. Filed April 13, 1922; serial No. 552,070.

Mining Machine; 1,533,316. Morris P. Holmes, Claremont, N. H., assignor to Sullivan Machinery Co., Chicago, Ill. April 14, 1925. Filed June 13, 1921; serial No. 477,943.

Safety Device for Mine Cages; 1,533,576. William F. Torrance, Dalmuir, Scotland, assignor of one-half to A. C. Stewart, Clydebank, Scotland. April 14, 1925. Filed April 14, 1923; serial No. 632,050.

Mine Car; 1,533,762. Hugh W. Sanford, Knoxville, Tenn. April 14, 1925. Filed Aug. 8, 1924; serial No. 730,892.

Coal Chute; 1,534,023. Harold E. Betton, Lynn, Mass. April 21, 1925. Filed April 17, 1924; serial No. 707,306.

Self-Dumping Mine Car; 1,534,135. Ralph G. Nichols, Richmond Hill, N. Y., assignor to American Car & Foundry Co., New York, N. Y. April 21, 1925. Filed Nov. 30, 1921; serial No. 518,891.

Concentrator Construction; 1,534,224. Richard A. Leahy, Bonne Terre, Mo. April 21, 1925. Filed Sept. 15, 1922; serial No. 588,389.

Apparatus for Loading Coal into Cars; 1,534,378. Andrew Germek, Edwardsville, Pa. April 21, 1925. Filed June 5, 1924; serial No. 718,134.

Incandescent Safety Lamp for Mines; 1,534,370. Louis E. F. Ferrette, Paris, France. April 21, 1925. Original application filed Feb. 17, 1922; serial No. 537,295. Divided and this application filed Nov. 21, 1923; serial No. 676,155.

Coming Meetings

Rocky Mountain Coal Mining Institute. Summer meeting, Aug. 26-29 at Price, Utah. Secretary, Benedict Shubart, Denver, Colo.

American Institute of Mining and Metallurgical Engineers. 132d meeting, at Salt Lake City, Utah, Aug. 31 to Sept. 3. Secretary, F. F. Sharpless, 29 West 39th St., New York City.

Oklahoma Coal Operators' Association. Annual meeting, Sept. 10 at McAlester, Okla. Secretary, A. C. Casey, McAlester, Okla.

New York State Coal Merchants' Association. Annual convention, Sept. 10-15, at Richfield Springs, N. Y. Executive Secretary, G. W. F. Woodside, Arkay Bldg., Albany, N. Y.

National Safety Council. Annual meeting Sept. 28 to Oct. 2, at Cleveland, Ohio. Managing Director, W. H. Cameron, 168 No. Michigan Ave., Chicago, Ill.

Tenth Exposition of Chemical Industries. Sept. 28 to Oct. 3, at Grand Central Palace, New York City.

Canadian Institute of Mining and Metallurgy. Annual western meeting Nov. 3-5, Winnipeg, Manitoba, Can. Secretary, George C. Mackenzie, Drummond Bldg., Montreal, Que., Can.

Fourth National Exposition of Power and Mechanical Engineering. Nov. 30 to Dec. 5, at Grand Central Palace, New York City.

Coal Mining Institute of America. Annual meeting, Dec. 9-11, Pittsburgh, Pa. Secretary, H. D. Mason, Jr., P. O. Box 694, Ebensburg, Pa.

New Equipment

Thermal Relay Is Added to Compensator Equipment

The General Electric, hand-starting compensators bearing the type designation CR-1034 have been redesigned. These compensators are for use on alternating-current circuits for starting squirrel-cage induction motors. Temperature overload relays have been incorporated in the compensator, replacing dashpot overload relays. In one of the sizes multiple rated auto-transformer coils are used instead of the single rated variety. The redesigned compensators also include an improved push button mechanism, containing an attachment for resetting the temperature overload relays.

Closer overload protection is obtainable with the new type relay. The multiple rated auto-transformer coils, where used, permit the use of one compensator for several horsepower ratings for a given voltage. The incorporation of the relay resetting function in the push button simplifies the operation of the device, making it unnecessary to open the compensator for this purpose.



Redesigned and Improved Starter

With the new thermal relay incorporated in this compensator better overload protection is possible.

insulated from a metallic tube forms the heating unit. For use on mine locomotives the voltage of the device is such that the units may be connected in series and take power directly from the trolley circuit.

New Companies

Banner Coal Co., Ltd., has been incorporated to develop and operate coal and other mines, with a capital of \$60,000 and head office at Calgary, Alta., by Isaac Saunders, James P. Pearson, Wm. McKinnon and others.

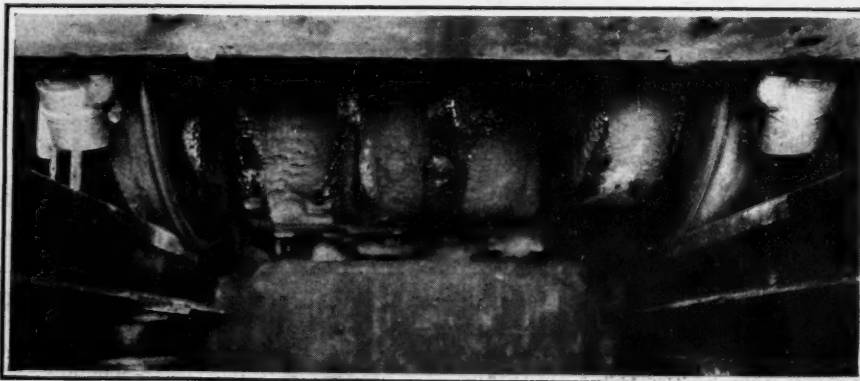
The Pittsburgh & Erie Coal Co., a Delaware corporation, has qualified to do business in Indiana, with a capital stock of \$25,000 represented in the state. The agent for service of process in Indiana is H. Humphreys, Peoples Trust Co., Linton, Ind.

Heater Keeps Sandpipe Dry

An electric sandpipe heater for use on electric mine locomotives to keep the lower end of the pipe dry and prevent clogging, lately has been placed on the market by the Universal Electric Sandpipe Heater Co., Philadelphia, Pa.

The device can be attached to the end of the sandpipe. A separate connection is provided for the conduit which carries the electric conductors leading to the heating element. With wet sand the end and interior of a sandpipe often get covered in such a manner that the outlet becomes closed. With this newly developed device the sand will always flow freely.

How the complete unit is installed on a mine locomotive is shown in the accompanying illustration. Inside the shell of the heater casting and around the lower end of the sandpipe is fitted the heating element. Nichrome wire inclosed in the housing but carefully



Sandpipe Heaters on Mine Locomotive

With devices such as these applied to the sandpipes of the locomotive, the sand al-

ways flows freely and reduces many accident hazards occasioned by clogged pipes.